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County

Borough of Bolton

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR

1932.

BOLTON:
[illegible] & Son, 5-13, Folds Road.
1933.

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OF THE

Medical Officer of Health

FOR

1932.

PUBLIC HEALTH DEPARTMENT,

BOLTON.

August, 1933.

To the Chairman and Members of the Public Health Committee.

LADIES AND GENTLEMEN,

I have the honour to submit the report for 1932, the sixty-first Annual Report on the health of Bolton.

The year under review was very satisfactory from the health standpoint. The death-rate of 12.5 per 1000 of the population approximates closely to the lowest recorded Bolton death-rate of 12.4 (in 1930). The infantile mortality-rate was 71. The birth-rate was 13.2 and constitutes a new record of infertility in our population. The lowest birth-rate previously recorded in Bolton was 13.7 (1931).

During the year there were 2,223 deaths and 2,363 births giving a natural increase in the population of 140.

Bolton compares very favourably with the fourteen other large towns and cities of Lancashire. One town only had a lower infantile mortality-rate; two had lower death-rates.

A table has again been introduced into the report giving vital statistics for the wards of the town. The limited value of this table must be recognised. Ward statistics are calculated on figures which are so small that the laws of chance introduce big ranges of possible error.

There was no undue incidence of infectious disease during the year. There was no smallpox. The major portion of the notified cases of infectious disease was treated in the Borough Isolation Hospital, Hulton Lane.

The work of the Isolation Hospital is hampered in several directions. The nurses' home cannot accommodate a sufficient number of nurses to staff all the wards. In the event of a serious epidemic of diphtheria or cerebro-spinal fever it would be difficult for the Local Authority to fulfil its obligations. The absence of a cubicle isolation ward is also a handicap. Such a ward is necessary for the care and treatment of patients suffering from more than one infectious disease, for the observation of cases where the diagnosis is uncertain, and for the treatment of the uncommon infectious diseases. During the year all the resident staff at the fever hospital who were susceptible to either scarlet fever or diphtheria were immunized.

New bye-laws concerning houses let-in-lodgings came into operation in the course of the year under review. They are proving helpful in many ways but they leave unaffected the real objection to houses let-in-lodgings. The families occupying them are generally poor, most being on the bare subsistence level. Such a proportion of their income is swallowed up in rent that there is not enough money left for food and clothes. After a consideration of all the facts there is abundant evidence that the charges made in many houses let-in-lodgings are extortionate.

The work of the Tuberculosis Dispensary and of the Venereal Diseases Clinics continues to be hampered by the gross inadequacy of the premises in Howell Croft. The Tuberculosis Officer examines his patients in a room which is really a corridor. Existing conditions both in the Tuberculosis Dispensary and the Venereal Diseases Department make the best work impossible.

The maternal mortality-rate in Bolton remains high in spite of organised efforts to bring about a reduction.

Public acknowledgment should be made of the loyal service of the Public Health Staff. The general tendency to understaffing in the Department throws extra burdens on everybody's shoulders. No Medical Officer of Health could be associated with a staff more ready and able to work with energy and enthusiasm under the difficult circumstances.

To you Mr. Chairman, Ladies and Gentlemen, I would acknowledge the constant courtesy and consideration which I have experienced at your hands.

I am, Ladies and Gentlemen,

Your obedient Servant,

R. M. GALLOWAY,

Medical Officer of Health
and School Medical Officer.

Table of Contents.

Section I. Natural and Social Conditions

Summary of Statistics 3
Vital Statistics in Wards 5
Population 5
Birth-rate 6
Death-rate 6
Summary of the principal Causes of Death ... 6
Infantile Mortality 8
Neo-natal Mortality-rate 9
Maternal Deaths 9
Deaths from Cancer 10
Deaths from Infectious Disease 14
Deaths from Tuberculosis 15
Comparative Statistics in Lancashire Towns ... 16

Section II. General Provision of Health Services

Professional Nursing in the Home 19
Midwives 19
Laboratory Facilities 19
Legislation in Force 19
Maternity and Nursing Homes 20
Maternal Mortality 21
Institutional Provision for Unmarried Mothers ... 21
Institutional Provision for the care of Mental Defectives 21
Ambulance Facilities 22
Local Government Act, 1929 22
Table of Clinics and Treatment Centres (*facing*) 22

Table of Contents—*Continued.*

Section III. Sanitary Circumstances

Air Supply 25
Report of Smoke Inspector 25
Water Supply 27
Chemical and Bacteriological Examination 27
Drainage and Sewerage 28
Closet Accommodation 29
Public Cleansing 31
The work of Sanitary Inspection 32
Premises subject to control by Local Authority 34
Common Lodging Houses 34
Houses-let-in-lodgings 35
Vans, etc. 36
Offensive Trades 37
Slaughter-houses 37
Knackers' Yards 38
Factories and Workshops 38

Section IV. Housing

The number of New Houses 43
Housing Act, 1930 45
The Inspection of Houses 45

Section V. The Inspection and Supervision of Food

The Milk Supply 51
Milk and Dairies Order, 1926 51
Milk (Special Designations Order) 1923 ... 52
Chemical Examination of Milk 53
Bacteriological Examination of Milk ... 54
Tuberculosis Order, 1925 56
Meat.
Public Health (Meat) Regulations, 1924 56
Number of Animals Slaughtered ... 57
Diseased Carcases 58
Weight of Unsound Meat Destroyed ... 60

Table of Contents—*Continued.*

Section V. The Inspection and Supervision of Food—*Continued.*

Fish, Poultry and Rabbits 60
Other Food Stuffs 61
Sale of Food Order, 1921 61
Merchandise Marks Act, 1926 61
Annual Report of the Public Analyst 62
Sale of Food and Drugs Act 67
Diseases of Animals Acts 69
Anthrax Order 69
Foot and Mouth Disease 69
Parasitic Mange Orders 69
The Swine Fever Order 69
Markets, Sales and Lairs Orders 69
Inspection of Cattle Market 70
Rats and Mice (Destruction) Act, 1919 70

Section VI. Prevalence of, and Control over, Infectious Diseases

Incidence of Notifiable Infectious Disease ... 71
Smallpox 74
Scarlet Fever 74
Encephalitis Lethargica 75
Ophthalmia Neonatorum 75
Puerperal Fever 75
Age and Sex Distribution 76
Notification-rates in Chief Lancashire Towns ... 77
Non-notifiable Infectious Diseases
Influenza 77
Whooping Cough 78
Measles 79
Pathological and Bacteriological Examinations... 79
Diphtheria Antitoxin 80
Disinfection 80
Work of the Borough Isolation Hospitals ... 81
Vaccination 83

Table of Contents—*Continued.*

Section VII. Tuberculosis

General Statistics 87
Pulmonary Tuberculosis 88
Non-pulmonary Tuberculosis 90
The Work of the Dispensary 91
Institutional Treatment 92

Section VIII. Venereal Diseases

Clinic Arrangements. 97
Attendances of Patients 98
Statement of Service at the Treatment Centre 100

Section IX. Maternity and Child Welfare

Births 105
Stillbirths 106
Infantile Mortality 106
Neo-natal Mortality 106
Maternal Deaths 108
The Work of the Health Visitors 109
Assistance given to Mothers and Infants ... 110
The Work of the Bolton School for Mothers... 110
Ante-natal Work 113
Massage and Artificial Sunlight 114
The Work of the Haslam Maternity Home ... 115
The Maternity Wards at Townleys Hospital ... 117
Bolton Day Nursery 117
The Control of Midwives 118
The Work of Midwives 118
Calls for Medical Aid 118
Lectures to Midwives 119
Children Act, 1908 120

Section X. Miscellaneous

Meteorological Summary 123
Baths and Wash-houses 125
Corporation Horses, etc 126

Section XI. Extracts from the Census taken April, 1931 ... 129

Section XII. Appendix

Table I. Causes of Death, 1932.
Table II. Causes of Death (Registrar General's Classification).

COUNTY BOROUGH OF BOLTON.

Public Health Committee.

THE MAYOR, ALD. S. LOMAX, J.P.

Chairman—ALD. T. HALSTEAD, J.P.

Vice-Chairman—COUNC. D. HEAP.

ALD. SIR T. E. FLITCROFT, J.P.
,, B. KIRKMAN, J.P.
,, P. KNOTT, J.P.
,, DR. E. MONKS, J.P.
COUNC. T. BAILEY.
,, F. BENTLEY.
,, MRS. A. E. DOWLING.
,, W. M. FARRINGTON.
,, W. A. HINDLEY, F.R.G.S.
,, T. H. LEE.
,, J. S. LOMAX.
,, DR. F. R. MALLETT.
,, DR. R. D. MOTHERSOLE.
,, J. PARKINSON.
,, T. PROFIT.
,, H. D. SCOWCROFT.
,, W. W. TONG, M.SC.TECH.
,, MRS. H. WRIGHT.

Public Health and Medical Inspection Staff.

WHOLE-TIME OFFICERS.

School Nurses—
1. Miss R. Boddington, 3 years' Cert.
2. Miss J. Robbins, 3 years' Cert.
3. Miss D. Walmsley, Cert. Midwife and 3 years' Cert.
4. Miss F. G. Leech, Cert. Midwife and 3 years' Cert.
5. Miss E. A. Aspinall, Cert. Midwife and 3 years' Cert.

Health Visitors—
1. Miss A. Marsh, 3 years' Cert.
2. Miss E. Tanner, 3 years' Cert.
3. Mrs. E. Blackburn, 3 years' Cert.
4. Mrs. J. Martin, Cert. Midwife, 3 years' Cert. and Cert. for Health Visitors (Board of Education)
5. Miss E. M. Halliday, Cert. Midwife, 3 years' Cert. and New Health Visitors' Cert.
6. Mrs. A. Butler, Cert. Midwife, 3 years' Cert. and New Health Visitors' Cert.
7. Miss L. Milner, Cert. Midwife, 3 years' Cert. and New Health Visitors' Cert.

Matron: Haslam Maternity Home—Miss L. E. Evans.

Matron: Borough Fever Hospital—Miss E. Bateman.

Sanitary Inspectors—
1. E. Sumner, Cert. R.S.I.
2. T. Ormrod, Cert. R.S.I.
3. C. J. Dawson, Cert. R.S.I.
4. T. Isherwood, Cert. R.S.I.
5. H. Whitaker, Cert. R.S.I. (Food Inspector).
6. F. Potter, Cert. S.I.B.
7. D. Allan, Cert. S.I.B.
8. J. H. McAdam, Cert. S.I.B. (Smoke Inspector).
9. S. A. Gibson, Cert. S.I.B.
10. J. H. Willett, Cert. R.S.I.

Chief Clerk—H. Daniels. Cert. R.S.I.

Veterinary and Chief Meat Inspector—R. P. Holmes, F.R.C.V.S.

Public Analyst and Bacteriologist—H. Hurst, B.Sc., F.I.C.

Assistant Medical Officers of Health and Assistant School Medical Officers—
Isabella Sim, M.B., Ch.B., D.P.H.
J. Litt, M.B., Ch.B., D.P.H., M.R.C.V.S.

Assistant Medical Officer of Health and Maternity and Child Welfare Officer—
Mary E. Boullen, M.B., Ch.B., D.P.H.

Tuberculosis Officer and Deputy Medical Officer of Health—
D. A. Woodeson, M.B., Ch.B., D.P.H.

Medical Officer of Health and School Medical Officer—
R. M. Galloway, M.D., D.P.H.

Public Health and Medical Inspection Staff—Continued.

PART-TIME OFFICERS.

Public Vaccinators and District Medical Officers—

Public Vaccinators.	District (Wards) and Estimated Population.	
Dr. L. F. Evans ...	Bradford, Exchange, Derby, Rumworth and Deane (49,067)	District M.O. for Bradford and Exchange
Dr. A. B. Platt ...	West and Heaton (28,499)	Also District M.O.
Dr. H. Spinks ...	Astley Bridge, East and North (22,846)	do.
Dr. A. A. G. Dickey...	Halliwell and Smithills (29,645)	do.
Dr. C. H. Dawson ...	Breightmet, Church and Tonge (24,358)	do.
Dr. E. C. Racker ...	Lostock (1,000)	do.
Dr. A. W. Smith ...	Darcy Lever and Great Lever (15,379)	do.
Dr. J. H. Marsh ...	Hulton (6,456)	

Dr. W. R. Hill is the District Medical Officer for Derby and Rumworth Wards, and

Dr. R. W. Higson is the District Medical Officer for Deane and Hulton Wards.

Medical Officer: Child Welfare Centres—Madge E. Johnson, M.B., Ch.B.

Artificial Sunlight Operator—Miss M. Charnock, C.S.M.M.G.

Masseuse—Miss M. L. Bruckshaw, C.S.M.M.G.

SECTION I.

Natural and Social Conditions.

SUMMARY OF NATURAL FEATURES —AND— VITAL AND MORTAL STATISTICS, 1932.

COUNTY BOROUGH OF BOLTON.

Position	Lat. 53° 35′ N., Lon. 2° 27′ W.
Elevation above sea level	230-ft. to 1,450-ft.
Geological Formation: Boulder Clay and Sand over Coal Measures.	
Rainfall (Av. 1887-1932, 44·513″)	43·289″
Area in Acres (Land and Inland Water)	15,280
Population (Census 1921)	178,683
,, (Census 1931)	177,250
,, (Mid-yearly estimated population 1932) ...	177,700
Density	11·6
Inhabited Houses (Census 1921)	41,828
,, ,, (Census 1931)	46,615
Private Families or Separate Occupiers (Census 1921) ...	42,635
,, ,, ,, ,, (Census 1931) ...	47,706
New Houses Certified 1932	751
Estimated No. of Houses in the Borough at 31st December 1932	48,589
Rateable Value at 31st March, 1933	£988,598
Sum represented by a Penny Rate (1932-1933) ...	£3,869-14s.-6d.
Births	2,363
Birth-rate	13·2
Deaths	2,223
Death-rate (Crude)	12·5
Death-rate (Registrar General's)	12·6
Average Death-rate (1923-1932)	13·4

SUMMARY—Continued.

Infantile Mortality	71
Neo-natal Death-rate	38·5
Maternal Death-rate	6·76
Epidemic Death-rate (seven chief diseases)...	·18
Diarrhœa & Enteritis (under 2 years), Death-rate per 1,000 Births	5·0
Phthisis Death-rate	·60
Other forms of Tuberculosis, Death-rate	·14
Respiratory Death-rate	1·4

118 COUNTY BOROUGHS AND GREAT TOWNS—

Birth-rate	15·4
Death-rate	12·2
Infantile Mortality	70
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births	8·6

ENGLAND AND WALES—

Birth-rate	15·3
Death-rate	12·0
Infantile Mortality	65
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births	6·6

Birth-rates, Death-rates and Infantile Mortality in Wards, 1931 and 1932.

(Rates calculated on the 1931 Census population).

Ward.	Census Population 1931.	Birth-rate.		Death-rate.		Infantile Mortality.	
		1931.	1932.	1931.	1932.	1931.	1932.
Astley Bridge ...	8,525	11·6	11 9	13·8	11·6	101	49
Bradford	15,711	15·4	15·2	14·7	12·8	115	91
Church	7,226	9·2	12·0	13·4	15·2	74	45
Darcy-Lever-cum-Breightmet...	5,297	15·6	13·7	13·7	14·5	84	82
Deane-cum-Lostock	5,873	12·4	12·7	10·5	11·4	68	13
Derby...	16,618	16·9	15·7	14·0	13·6	56	103
East	8,080	16·0	14·7	17·0	14·9	84	75
Exchange	2,629	14·8	10·6	23·2	14·4	153	105
Great Lever	13,712	12·2	11·9	12·7	11·5	53	60
Halliwell	19,464	13·9	12·2	13·6	11 6	99	75
Heaton	4,420	9·2	7·4	9·7	9·2	24	30
Hulton	6,456	11·6	9·6	13·0	10·8	53	48
North	6,241	13·2	10·0	15·3	10·8	108	79
Rumworth	9,236	13·1	12·0	13·4	11·3	57	90
Smithills	10,181	12·2	10·1	11·8	11·4	48	97
Tonge...	13,502	11·7	17·5	12·4	12·6	88	54
West	24,079	16·7	14·8	13·4	13·4	71	56
Whole Borough ...	177,250	13·8	13·3	13·6	12·5	78	71

Population.

The Registrar-General's estimate of the population of Bolton for 1932 was 177,700.

Birth-rate.

Bolton had 2,363 births in 1932. The birth-rate was 13·2, the lowest ever recorded in Bolton.

Death-rate.

Bolton had 2,223 deaths in 1932 giving a death-rate of 12·5 which comes near to the lowest recorded death-rate of 12·4 in 1930.

During the year, 584 persons whose usual place of residence was in the area of this county borough died outside the borough; of these, 473 died in Townleys Hospital or Fishpool Institution and 60 died in Mental Hospitals.

Non-residents who died in the area numbered 103, of whom 89 died in Bolton Royal Infirmary.

191 Boltonians died in Bolton Royal Infirmary.

Summary of the Principal Causes of Death, 1932.

	No. of Deaths.	Per cent. of total Deaths.
Infectious and Parasitic Diseases	218	9·80
Measles	9	·40
Whooping cough	11	·49
Influenza	46	2·06
Pulmonary tuberculosis	108	4·85
Other forms of tuberculosis	26	1·16
Other infectious and parasitic diseases ...	18	·80
Cancer and other Tumours	242	10·88
Cancer	231	10·39
Tumours...	11	·49
Rheumatism, Diseases of Nutrition, etc.	62	2·78
Rheumatic fever	18	.80
Chronic rheumatism, osteo-arthritis ...	6	·26
Diabetes	25	1·12
Exophthalmic goitre	10	·44
Other general diseases	3	·13
Diseases of the Blood & Blood Forming Organs	22	·98
Anæmia, chlorosis	20	·89
Leukæmia, aleukæmia	2	·08

DISEASES OF THE NERVOUS SYSTEM & SENSE ORGANS	200	8·99
Meningitis	3	·13
Locomotor ataxy	3	·13
Other diseases of the spinal cord ...	7	·31
Cerebral hæmorrhage	98	4·40
Apoplexy...	16	·71
Cerebral embolism	3	·13
Cerebral thrombosis...	14	·62
General paralysis of the insane	5	·22
Epilepsy	11	·49
Infantile convulsions...	13	·58
Disseminated sclerosis	5	·22
Diseases of the mastoid sinus	6	·26
Other diseases	16	·71
DISEASES OF THE CIRCULATORY SYSTEM	622	27·98
Heart diseases	425	19·11
Aneurysm	4	·17
Arterio-sclerosis	171	7·69
Abnormalities of blood pressure	11	·49
Other diseases	11	·49
DISEASES OF THE RESPIRATORY SYSTEM	262	11·78
Bronchitis	98	4·40
Pneumonia	141	6·34
Congestion of lungs, etc.	12	·53
Asthma	5	·22
Other diseases	6	·26
DISEASES OF THE DIGESTIVE SYSTEM	118	5·30
Ulcer of the stomach or duodenum ...	30	1·34
Diarrhoea and enteritis	23	1·03
Appendicitis	6	·26
Hernia...	11	·49
Intestinal obstruction	11	·49
Other diseases of the intestine	5	·22
Cirrhosis of the liver	5	·22
Diseases of the gall bladder and ducts ...	11	·49
Other diseases	16	·71
DISEASES OF THE GENITO-URINARY SYSTEM	146	6·56
Nephritis	116	5·21
Diseases of the prostate	17	·76
Other diseases	13	·58
THE PUERPERAL STATE	16	·71

Congenital Malformations	29	1·30
Diseases of Early Infancy	68	3·05
Congenital debility	11	·49
Premature birth	44	1·97
Atelectasis	7	·31
Other diseases	6	·26
Old Age	100	4·49
Deaths from Violence	97	4·36
Suicide	36	1·61
Accidents	56	2·51
Other violent deaths...	5	·22
Miscellaneous Causes	21	·94

The five principal certified causes of death were:

		Proportion per 1000 deaths
1.	Diseases of the Heart and Circulatory System ...	280
2.	Bronchitis, Pneumonia and other Respiratory Diseases	118
3.	Cancer, Malignant Disease	109
4.	Diseases of the Nervous System	90
5.	All forms of Tuberculosis	60

Infantile Mortality.

The death-rate in children under one year is regarded as a very valuable index of the sanitary condition and the educated motherhood of a town. The death-rate of infants is expressed as the number of deaths under 1 year old per 1000 births, and is called the infantile mortality-rate.

The infantile mortality-rate in Bolton in 1932 was 71.

The infantile mortality-rate amongst the legitimate children was 68; and amongst the illegitimate 141.

In the following table is given the average infantile mortality for five year periods from 1876 to 1920, and for each year from 1921 to 1932.

Quinquennium.	Average rate.	Year.	Rate.
1876-1880	171	1921	96
1881-1885	169	1922	93
1886-1890	173	1923	85
1891-1895	185	1924	92
1896-1900	173	1925	87
1901-1905	157	1926	101
1906-1910	134	1927	75
1911-1915	128	1928	64
1916-1920	100	1929	103
		1930	69
		1931	78
		1932	71

The part of the infantile mortality-rate which is due to deaths of infants under four weeks is called the neo-natal mortality-rate. These deaths result very largly from causes at work before the birth of the child. Of the 71 babies who died in 1932 for every 1000 babies born, 38 died in the first four weeks of life.

Maternal Deaths.

I regret to say that Bolton maternal death-rate remained high in 1932. The figure was 6·76.

I can offer no explanation for the continued high death-rate amongst Bolton mothers. We are providing all the proved means for the protection of motherhood.

Maternal Mortality in Boroughs of Lancashire in 1932.

Rochdale	1·7	Oldham	5·5
Bury	2·5	Preston	5·6
Liverpool	2·6	Salford	6·1
Manchester	3·6	**Bolton**	**6·7**
St. Helens	4·1	Burnley	7·3
Blackpool	4·6	Southport	7·9
Blackburn	5·1	Wigan	8·5

CANCER.

Cancer caused 231 deaths in Bolton in 1932.

Is cancer increasing? It is well to make quite clear what this question means.

The cancer death-rate is increasing, that is the number of persons per thousand of the population who die of cancer is getting bigger.

This increase is mainly due to the fact that the population is becoming an older one. People live considerably longer than they did 50 years ago, fewer children are born per 1000 of the population, and therefore, as cancer is in the main a disease of the later years of life the portion of the present day population specially liable to develop cancer is a much larger fraction of the whole than it was some years ago.

Also diagnosis improves from year to year, and this improvement in diagnosis makes it obvious that some portion of any apparent increase must be due to the more accurate recognition of the disease.

What specially concerns the individual is the answer to this question: "Am I more likely to develop cancer than if I had lived 50 years ago?"

Not all competent investigators will give the same answer. Some will say yes, some will say no; but amongst those who say yes, not one will say that the chance of the individual developing cancer is increased by more than an almost negligible amount.

The following table shows the number of deaths from cancer, the cancer death-rate, and for purposes of comparison, the pulmonary tuberculosis death-rate in Bolton for the years 1901 to 1932.

Deaths from Cancer in Bolton in the years 1901-1932.

Year.	No. of deaths. Males.	Females.	Total.	Cancer Death-rate.	Pulmonary Tuberculosis Death-rate.
1901	26	71	97	·57	1·69
1902	51	73	124	·73	1·49
1903	32	72	104	·60	1·27
1904	45	88	133	·77	1·28
1905	57	76	133	·76	1·20
1906	40	74	114	·65	1·15
1907	45	75	120	·68	1·05
1908	53	69	122	·80	1·21
1909	90	84	144	·83	1 29
1910	58	92	150	·83	1·08
1911	67	84	151	·83	1·03
1912	80	88	168	·82	·99
1913	72	110	182	·98	·83
1914	77	96	173	·93	·90
1915	78	103	181	1·04	1·03
1916	60	100	160	·94	1·07
1917	73	93	166	1·01	1·15
1918	85	102	187	1·16	1·23
1919	72	104	176	·99	·97
1920	96	107	203	1·10	.83
1921	86	128	214	1·17	·88
1922	88	104	192	1·05	·75
1923	101	113	214	1·17	·86
1924	123	121	244	1·34	·89
1925	108	132	240	1·33	·83
1926	109	127	236	1·33	·76
1927	116	116	232	1·30	·83
1928	119	126	245	1·35	·66
1929	113	91	204	1·12	·66
1930	107	133	240	1·32	·62
1931	109	144	253	1·41	·65
1932	105	126	231	1·29	·60

The above death-rates are crude death-rates. This means that they are not corrected for the changes in the age and sex distribution of the population.

The following table shows the age and sex distribution of all persons who were certified as having d of cancer in Bolton in 1932. The table shows also the localization of the disease.

DEATHS FROM CANCER, 1932.

Age and Sex Distribution, and Localization of Disease.

Lesion	Sex		AGE																
	M.	F.	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85
Buccal Cavity																			
Tongue	8	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	3	..	...
	...	3	...	...	...	...	...	...	...	...	...	1	1	...	...	1	...	...	...
Other Sites	7	...	...	...	...	...	...	...	...	...	...	...	2	...	3	...	2	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Total Buccal Cavity ...	15	...	...	...	...	...	...	...	...	...	...	...	2	...	6	2	5	...	...
	...	4	...	...	...	...	...	...	...	...	...	1	1	...	1	1	...	...	...
Digestive Organs																			
Œsophagus	8	...	...	...	...	...	...	...	...	...	...	...	1	1	2	2	2	...	...
	...	5	...	...	...	...	...	...	...	...	...	...	...	...	1	3	1	...	...
Stomach and Duodenum ...	20	...	...	...	...	...	...	...	...	...	...	3	...	6	2	2	3	4	...
	...	23	...	...	...	...	...	...	...	2	1	1	4	1	2	4	6	1	1
Rectum	6	...	...	...	...	...	1	...	...	...	...	...	...	...	1	2	2	...	...
	...	8	...	...	...	...	...	...	...	...	1	1	1	1	1	...	1	1	1
Liver and Biliary Passages	5	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	1	...	...
	...	5	...	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	2
Pancreas	4	...	...	...	...	...	...	...	...	...	...	1	...	1	1	1	...	...	...
	...	2	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...
Peritoneum...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Other Digestive Organs ...	14	...	...	...	...	...	...	...	...	...	...	...	1	3	1	4	4	...	1
	...	8	...	...	...	...	...	...	...	...	2	...	...	1	1	1	2	...	1
Total Digestive Organs ...	57	...	...	...	...	...	1	...	...	...	...	4	2	11	9	13	12	4	1
	...	52	...	...	...	...	...	1	...	2	5	2	5	5	5	9	11	2	5
Respiratory Organs	9	...	...	...	...	...	...	...	...	...	...	...	...	2	3	3	1	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...

DEATHS FROM CANCER, 1932.—*contd.*

Lesion	Sex		AGE																	
	M.	F.	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwds
Genital Organs																				
terus	...	20	...	...	...	...	...	...	...	1	2	4	4	2	2	...	4	...	1	...
vary	...	4	...	...	...	...	...	...	...	1	...	1	1	...	...	...	1	...	...	...
agina	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Female Genital Organs...	...	25	...	...	...	...	...	...	...	2	2	5	5	3	2	...	5	...	1	...
... ...	...	30	...	...	...	...	...	...	...	...	2	5	5	6	1	4	6	1	...	...
enito—urinary Organs																				
rostate	7	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	3	2	...	...
her Sites	4	...	...	...	...	...	...	1	...	...	1	...	1	...	1	...	...	...	...	...
Male Genito—urinary gans	11	...	...	...	...	...	...	1	...	...	1	...	2	...	2	...	3	2	...	...
	3	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
or Unspecified Organs	10	...	1	...	...	...	...	...	...	...	...	1	1	2	1	1	2	1	...	...
	...	13	...	...	...	...	...	...	1	...	1	...	3	...	3	1	2	2	...	...
Males	105	...	1	...	...	...	1	1	...	...	1	5	8	15	21	21	23	7	1	...
Females	...	126	...	...	...	...	...	1	1	4	10	13	19	15	12	15	24	5	7	...
TOTAL both sexes ...	231		1	...	...	...	1	2	1	4	11	18	27	30	33	36	47	12	8	...

DEATHS FROM INFECTIOUS DISEASES.

The deaths attributed in Bolton to the various epidemic diseases are shown in the following table for the years 1924 to 1932.

Causes of Death from Epidemic Diseases.

	1924	1925	1926	1927	1928	1929	1930	1931	1932
Smallpox...	—	—	—	—	—	—	—	—	—
Scarlet Fever...	1	3	1	—	1	4	3	2	1
Diphtheria and Memb. Croup	6	3	14	10	16	8	3	2	3
Enteric and Continued Fever	6	1	1	4	1	1	1	—	—
Measles	12	18	16	21	17	11	4	24	9
Whooping Cough	28	32	37	1	9	85	8	14	11
Diarrhœa and Enteritis under 2 years of age...	33	44	47	20	17	18	27	17	12
Erysipelas	5	9	6	11	9	5	14	7	3
Puerperal Sepsis	6	8	5	4	3	6	6	3	3
Cerebro-spinal Fever	2	1	2	3	4	—	2	7	5
Encephalitis Lethargica ...	17	13	14	10	11	5	4	6	3
Influenza...	88	98	68	147	55	208	42	110	46

The seven principal epidemic diseases are:—Smallpox, Scarlet Fever, Diphtheria, Enteric Fever, Measles, Whooping Cough, and Epidemic Diarrhœa (under two years of age). These diseases caused 33 deaths in Bolton in 1932. This is a death-rate of ·18 per thousand inhabitants, and this death-rate is known as the zymotic death-rate. Bolton's death-rate from the above diseases for the years 1921-32 is as follows:—

1921	...	·62	1927	...	·31
1922	...	·65	1928	...	·33
1923	...	·40	1929	...	·69
1924	...	·47	1930	...	·25
1925	...	·55	1931	...	·32
1926	...	·65	1932	...	.18

The decrease in the zymotic death-rate of 1932 as compared with that of 1931 is mainly due to the decrease in the number of deaths from measles. Influenzal deaths (which are not included in the zymotic death-rate) were only 46, compared with 110 in the previous year.

Deaths from Tuberculosis.

There were in 1932 in Bolton 134 deaths due to tuberculosis in all its forms. Of these deaths, 108 were due to tuberculosis of the lungs.

The tuberculosis death-rate for 1932 of ·75 is the lowest rate which has ever been recorded in Bolton.

Deaths and Death-rates from Tuberculosis in Bolton in previous years.

Year.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		Tuberculosis (all forms).	
	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate
1916	181	1·07	62	·36	243	1·43
1917	189	1·15	62	·37	251	1·53
1918	198	1·23	55	·34	253	1·57
1919	173	·97	37	·20	210	1·18
1920	154	·83	32	·17	186	1·00
1921	161	·88	37	·20	198	1·08
1922	138	·75	40	·21	178	·97
1923	157	·86	47	·25	204	1·11
1924	162	·89	42	·23	204	1·12
1925	151	·83	34	·18	185	1·02
1926	135	·76	29	·16	164	·92
1927	149	·83	33	·18	182	1·02
1928	120	·66	20	·11	140	·77
1929	121	·66	24	·13	145	·79
1930	114	·62	36	·19	150	·82
1931	118	·65	20	·11	138	·77
1932	108	·60	26	·14	134	·75

Birth-rate, Death-rate and Infantile Mortality in chief Lancashire Manufacturing Towns.

(Figures taken from the Summaries of the Registrar-General).
1931 and 1932.

	Birth-rate.		Death-rate.		Infantile Mortality.	
	1931	1932	1931	1932	1931	1932
England and Wales	15·8	15·3	12·3	12·0	66	65
County Boroughs and Great Towns, including London ...	16·0	15·4	12·6	12·2	72	70
St. Helens...	20·1	20·1	12·5	11·4	88	89
Warrington	18·5	17·3	13·4	12·2	100	88
Bolton	**13·7**	**13·4**	**13·5**	**12·6**	**80**	**70**
Barrow-in-Furness	14·6	14·4	12·3	12·6	69	77
Blackburn	12·4	12·6	14·2	12·7	60	67
Burnley	13·0	12·0	14·2	13·0	85	86
Wigan	18·5	17·8	14·2	13·0	103	91
Preston	15·7	14·9	13·8	13·1	89	83
Manchester	16·0	15·5	13·8	13·2	85	86
Liverpool	21·6	21·1	14·2	13·2	94	91
Bootle	21·6	22·9	14·8	13·3	95	86
Salford	16·0	15·7	14·2	13·3	97	97
Bury	11·9	12·7	14·5	13·6	73	85
Rochdale	12·6	12·5	15·0	14·1	66	72
Oldham	13·6	12·9	14·3	14·1	106	83

In 1932, of the above 15 towns, Bolton has the sixth lowest birth-rate, the third lowest death-rate, and the second lowest infantile mortality-rate.

SECTION II.

1. General Provision of Health Services.

GENERAL PROVISION OF HEALTH SERVICES IN BOLTON.

The following information regarding these services is given in compliance with the instruction of the Ministry of Health.

1.—Professional Nursing in the Home.

The Bolton District Nursing Association provides nursing in the home for all cases of illness other than infectious disease and maternity nursing.

There is a scale of charges but necessitous cases are nursed free. The District Nursing Association co-operates with the Royal Infirmary in the Provident Contributory Schemes organised amongst work people.

The Bolton Corporation makes an annual grant of £200 to the funds of the Association. The Public Health Committee pays for any home nursing of the following diseases:—puerperal pyrexia, puerperal fever, measles, whooping cough, epidemic diarrhœa, and ophthalmia neonatorum.

2.—Midwives.

75 Midwives notified their intention of practising in Bolton in 1932.

The Local Authority neither employs nor subsidises any midwives.

3.—Laboratory Facilities.

The Local Authority employs a fully qualified whole-time analyst and bacteriologist and provides an adequately equipped laboratory. A full account of the work done by this department is given in this report.

4.—Legislation in Force.

Local Acts, General Adoptive Acts, Bye-laws and Regulations in Force in Bolton.

Local Acts.

Bolton Improvement Act, 1854.

Bolton Improvement Act, 1865.

Bolton Corporation Act, 1872.

LOCAL ACTS.—*continued.*

Bolton Improvement Act, 1877.

Local Government Board's Provisional Orders Confirmation (Abergavenny Union, &c.) Act, 1879.

Bolton Improvement Act, 1882.

Local Government Board's Provisional Orders Confirmation (No. 15) Act, 1893.

Bolton Tramways and Improvement Act, 1897.

Bolton Corporation Act, 1901.

Bolton Corporation Act, 1905.

Bolton Corporation Act, 1922.

Bolton Corporation Act, 1925.

GENERAL ADOPTIVE ACTS.

Part III.—Public Health Acts Amendment Act, 1890. (Adopted—6th May, 1891).

Part IV.—Public Health Acts Amendment Act, 1890. (Adopted—6th July, 1910).

BYE-LAWS AND REGULATIONS.	DATE MADE.
Slaughter-houses	13th Feb., 1867.
Common Lodging-houses	2nd Feb., 1898.
Dairies, Cowsheds and Milkshops ...	5th July, 1899.
Management, etc., of High Street Baths	4th Feb., 1903.
Means of Escape in Case of Fire ...	10th Sept., 1908.
Tents, Vans, Sheds and Similar Structures	21st Jan., 1926.
Nursing Homes	20th Mar., 1930.
Houses Let in Lodgings	25th Apl., 1932.

5.—MATERNITY AND NURSING HOMES.

Nursing Homes Registration Act, 1927.

	Maternity Homes and Nursing Homes	Maternity Homes only	Nursing Homes only
No. of Homes on the register when the Act came into operation ...	—	3	—
No. of applications for registration	3	1	2
No. of Homes registered	3	1	2
No. of Homes on the register on 31st December, 1932	1	1	1

No orders have been made refusing or cancelling registration.

No applications have been made for exemption from registration.

Since the Act became operative six homes have been closed voluntarily and the registration cancelled.

The three homes on the register at the end of the year provided accommodation for patients as follows:—

Maternity patients	6
Other patients	32

Bye-laws made under the Act of 1927 were approved and adopted by the Council on the 5th February, 1930, and these were allowed by the Ministry of Health on the 20th March, 1930.

6.—Maternal Mortality.

All maternal deaths are enquired into by the Medical Officer for Maternity and Child Welfare, Dr. Mary E. Boullen. She interviews in every case both doctor and midwife and, if the patient has had hospital treatment, a written report is obtained from the Medical Officer or Officers having charge of the case.

7.—Institutional Provision for Unmarried Mothers, Illegitimate Infants and Homeless Children.

There are no Special Institutions in Bolton for the care of the unmarried mother and her child. Unmarried mothers are admitted to Haslam Maternity Home and Townleys Hospital for confinement. The Public Assistance Committee make provision for homeless children in Townleys Hospital and later in the Hollins Homes.

Religious organisations have homes in Manchester, Bury and Prestwich, to which Bolton girls are admitted before the birth of the baby and where they may remain some time after confinement.

8.—Institutional Provision for the Care of Mental Defectives.

The institutional care of mental defectives is dealt with by the Lancashire Mental Deficiency Act Committee. The quality of the provision made is quite satisfactory, but in quantity it is lamentably inadequate. There are at the present time in Bolton mental defectives whose condition is such as to make life almost impossible for their families, cases which are most urgently in need of institutional care, but which have to remain at home because the institutional provision for these cases is very inadequate.

9.—Ambulance Facilities.

Two motor ambulances are kept at the Borough Isolation Hospital and are available for all infectious cases.

For non-infectious and accident cases, the County Borough of Bolton has provided four motor ambulances. These ambulances are available for the moving, within the area of the County Borough of Bolton, of all cases of sickness and accident for the moving of which an ambulance is necessary. A small charge is made if the circumstances of those requiring the use of the ambulance justify such charge.

The Public Assistance Committee has four motor ambulances which deal with all cases needing removal to or from their institutions.

In addition to the above the Bolton Royal Infirmary has a motor ambulance for the removal of cases from the Infirmary to its Auxiliary Hospitals, and for the removal of cases to addresses outside the area of the County Borough.

10.—Local Government Act, 1929.

All the Institutions and Services (other than vaccination and infant life protection) previously administered by the Guardians are now administered by the Public Assistance Committee.

CLINICS, TREATMENT CENTRES, ETC.

11.—The following table gives particulars of all clinics and treatment centres administered by the Council of the County Borough of Bolton.

Name of Clinic or Centre	Situation.	Day and Time.	Nature of Accommodation.	By whom provided.
Infant Welfare Centres.				
1. Tipping Street.	The Friends' School Room, Tipping Street.	Monday, 3-0 p.m.	2 Rooms.	Grant to Bolton School for Mothers by the Bolton Public Health Committee. The School for Mothers provides the accommodation. Medical supervision, Health Visitors, Drugs, etc., are provided by the Public Health Committee.
2. Chalfont Street.	Chalfont Street Methodist School.	Monday, 3-0 p.m.	2 Rooms.	
3. Halliwell.	Halliwell Road Free Church, Halliwell Road.	Tuesday, 3-0 p.m.	5 Rooms.	
4. Grecian Crescent.	Victoria Wesleyan School, Grecian Crescent.	Tuesday, 3-0 p.m.	2 Rooms.	
5. Kensington.	Girls' Club, Kensington Street.	Wednesday, 3-0 p.m.	4 Rooms.	
6. St. Chad's.	St. Chad's School, Belvoir Street.	Wednesday, 3.0 p.m.	3 Rooms.	
7. Saviour's.	Saviour's Church House, Deane Road.	Thursday, 3-0 p.m.	2 Rooms.	
8. Sunning Hill.	Sunning Hill Council School, Derby Street.	Thursday, 3-0 p.m.	3 Rooms.	
Ante-natal Clinics.				
1. St. George's Road.	Bolton School for Mothers, 70 St. George's Road.	Tuesday, 3-0 p.m., and Thursday 10-30 a.m.	2 Waiting Rooms, Lecture Room and Doctor's Room.	Do. do.
2. Haslam Maternity Home.	Chorley New Road.	Wednesday, 10-30 a.m. Friday, 10-30 a.m. and 2-0 p.m.	2 Waiting Rooms and Doctor's Room.	Bolton Public Health Committee.
3. Dental Clinic for expectant mothers.	School Clinic, Charles Street.	Tuesday, 6-0 p.m. (by arrangement.)		
Artificial Sunlight Clinic.				
St. George's Road.	Bolton School for Mothers, 70 St. George's Road.	Mon., Wed. and Fri., 10-30 a.m.	Waiting Room, Examination Room and Treatment Room	Premises—Bolton School for Mothers. Medical supervision and operator—Bolton Public Health Committee.
Massage Clinic.				
Flash Street.	Special School, Flash Street.	Mon., Wed., Thurs. and Fri., 10-0 a.m. and 2-0 p.m.	2 Rooms.	Premises—Bolton Education Committee. Masseuse—Bolton Public Health Committee.
School Clinic.				
Charles Street.	Charles Street.	**Minor Ailment Clinic.** Mon. to Fri., 9-0 a.m. and 2-0 p.m. Saturday, 9-0 a.m. **Dental Clinic.** Mon. to Fri., 9-30 a.m. and 2-30 p.m. Saturday, 9-30 a.m. **Ophthalmic Clinic.** Tuesday and Thursday, 9-30 a.m.	2 Waiting Rooms, Treatment Room, Doctor's Room, 2 Dental Surgeries, Dental Rest Room, Ophthalmic Surgeon's Room, Dark room, Storeroom and Bathroom.	Bolton Education Committee.
Tuberculosis Dispensary.				
Bolton Tuberculosis Dispensary.	Public Health Offices, Howell Croft, North.	Every week-day except Saturday, 9-30 a.m. Wednesday, 2-0 p.m.	Waiting Room, Doctor's Room and Dispensary.	Bolton Public Health Committee.
Venereal Diseases Clinic.				
Bolton V. D. Clinic.	Public Health Offices, Howell Croft, North.	**For Males.** Monday, 10-0 a.m. and 7-0 p.m. Tuesday, 7-0 p.m. Wednesday, 10-0 a.m. and 7-0 p.m. Thursday, 11-0 a.m. Friday, 10-0 a.m. and 7-0 p.m. **For Females.** Monday, 2-30 p.m. Tuesday, 9-30 a.m. Wednesday, 2-30 p.m. Thursday, 7-0 p.m. Friday, 2-30 p.m. Saturday, 10-30 a.m.	Waiting Room, Clerk's Room and 2 Treatment Rooms.	Bolton Public Health Committee.
Day Nursery.	41, Arkwright Street.	Mon. to Fri., 7-0 a.m. to 5-30 p.m. Saturday 7-0 a.m. to 1-0 p.m.	Office, Reception Room, Toddlers' Room, Babies' Room, Staff Room, Kitchen, Verandah, Bathrooms, Staff Bedrooms and usual Offices.	Bolton Day Nursery Association. Grant of £575 per annum by Bolton Public Health Committee.

SECTION III.

Sanitary Circumstances.

AIR.

The air supply of Bolton is unsatisfactory on account of pollution with smoke from house and factory chimneys. The constant breathing of polluted air is an important factor in the production of sickness and increased mortality.

It is an under estimate to say that 4,000 tons of solid matter fall annually within the boundaries of our borough. More than 60,000 gallons of tar and acid are thrown annually into the air from Bolton chimneys. There are still many technical difficulties to overcome before this gross pollution can be prevented easily. But until our atmosphere is smokeless we shall have to acknowledge the presence of preventible disease.

Mr. J. H. McAdam the Smoke Inspector has furnished me with the following report :—

" I beg to report that at the end of the year there were 263 chimneys in full or occasional use within the Borough.

228 of the chimneys are used in connection with steam raising plant, and carry off the products of combustion from 491 boilers.

These boilers are grouped into varying sized installations, as shown in the following table :—

119	chimneys	take	1	Boiler
33	,,	,,	2	Boilers
38	,,	,,	3	,,
20	,,	,,	4	,,
9	,,	,,	5	,,
3	,,	,,	6	,,
5	,,	,,	8	,,
1	chimney	takes	9	,,

The majority of these boilers are hand fired, the actual figures being 323 hand fired, and 168 mechanically fired.

Boiler Types.

Lancashire	394
Cornish	30
Fire Tube	16
Water Tube	20
Vertical	31

In certain cases chimneys are used for industrial and manufacturing processes in addition to steam raising. These chimneys have in every case been classified in accordance with the boiler plant installed. The processes covered by this group include refuse destruction, brick burning, brewing and iron and steel manufacture and treatment.

The 35 chimneys not associated with steam raising are used as follows :—

3	chimneys	used	with	open furnaces.
2	,,	,,	,,	carbonisation plant.
5	,,	,,	,,	oil fired ovens.
3	,,	,,	,,	cupolas.
2	,,	,,	,,	water heating boilers.
4	,,	,,	,,	brick burners.
4	,,	,,	,,	hardening and re-heating furnaces.
3	,,	,,	,,	open boilers.
3	,,	,,	,,	coke ovens.
1	chimney	,,	,,	drying stove.
1	,,	,,	,,	lead smelting.
1	,,	,,	,,	soda ash plant.
1	,,	,,	,,	chemical apparatus.
1	,,	,,	,,	cloth dressing.
1	,,	,,	,,	paint and varnish plant.

Smoke Observations

The standard used in determining whether a nuisance has been committed by reason of emission of black smoke is as follows :—

The emission of black smoke for periods which in the aggregate exceed two minutes in any half hour is a nuisance, fractions of a minute other than a full half minute being disregarded.

During the past year 418 half-hour observations were recorded with the following results—

124	showed	no emission of black smoke.			
98	,,	½	minute	black	smoke.
106	,,	1	,,	,,	,,
45	,,	1½	minutes	,,	,,
24	,,	2	,,	,,	,,
3	,,	2½	,,	,,	,,
4	,,	3	,,	,,	,,
3	,,	3½	,,	,,	,,
3	,,	4	,,	,,	,,
3	,,	4½	,,	,,	,,
1	,,	5	,,	,,	,,
1	,,	9½	,,	,,	,,
1	,,	11½	,,	,,	,,
2	,,	emission of fumes.			

15 notices of abatement were served, and one firm was prosecuted, when a fine of 20/- was imposed."

WATER.

The water supply of the Borough is derived from moorland drainage grounds which have been cleared of farms and, with one or two exceptions, of public footpaths. The average daily supply for all purposes is about 7,000,000 gallons.

The collected water is stored in reservoirs and purification effected by lime treatment followed by sand or mechanical pressure filtration.

Bacteriological examination of the whole of the supply is made weekly, and a chemical examination monthly.

Generally speaking, the water, after filtration, is of excellent quality, the agar counts being low, and B. Coli absent in 100 ccs.

Summary of Results. (Filtered Waters.)

CHEMICAL EXAMINATION.

Total Solids	10·9	Parts per	100,000
Free Ammonia	0·002	do.	do.
Albuminoid Ammonia ...	0·004	do	do.
Nitrogen as Nitrates... ...	0·008	do.	do.
Nitrogen as Nitrites	none		
Chlorine	1·10	do.	do.
Acidity	none		
Hardness	3·00	Degrees	
Oxygen Absorbed (3 hours)...	0·100	Parts per	100,000

BACTERIOLOGICAL EXAMINATION.

Agar Count per 1 cc.	19

B. COLI.

Positive in 10 ccs.	0·6%
Positive in 50 ccs. Negative in 10 ccs.	4·6%
Positive in 100 ccs. Negative in 50 ccs.	19·4%
Negative in 100 ccs.	75·4%

There was an adequate internal water supply in all houses to which the Bolton Corporation was under obligation to afford supplies.

4 miles, 1,287 yards of cast-iron water mains, varying from 3" to 9" in diameter, were laid within the Borough, and 1 mile, 1,707 yards of mains were re-laid with mains of larger diameter.

DRAINAGE AND SEWERAGE.

The Borough Engineer reports "Many extensions have been made to the sewerage system during the past year for taking the drainage of Cameron Street and Johnson Fold Housing Schemes and developments carried out by private builders.

These extensions have been constructed of glazed earthenware pipes of 9" and 12" and 15" diameter, and concrete tubes were of large diameter, all jointed with Portland cement and bedded in concrete. Manholes are constructed of brickwork in cement at all changes of gradient and direction, and at all termini, at distances not exceeding 100 yards, the sewers being ventilated by means of open cast-iron manhole covers.

The sewers generally have ample fall; the drainage of the town is all by gravitation and taken by means of six intercepting sewers of brick construction in the larger diameters, and glazed earthenware pipes of 18" and downwards for the smaller diameters.

Old sewers in the following streets have been reconstructed owing to some defects having been found:—Byng Street East; Bradshaw Street; Ramsden St.; Bk. Crescent Road; Mount Street and Darley Street; and 30 manholes have been constructed on many of the old sewers for their better control.

The Great Lever Intercepting Sewer is now on the point of completion, whereby the sewage of the greater part of the Great Lever District will be treated at the Hacken Sewage Works of the Bolton Corporation, instead of at the Farnworth Urban District Council's Works. This work will cost upwards of £15,700.

Work has also commenced upon the Tonge and Bradshaw Brook Intercepting Sewers, the estimated cost of which is £176,000."

The Sewage Work's Manager reports that during the summer a large sludge lagoon was constructed at the Rhodes Farm Filtration Works to assist in dealing with the sludge sent down from the Hacken Sewage Works during those periods when open air drying beds cannot be effectively used.

Arrangements were entered into, with the Astley Bridge District Committee during the year, whereby the sludge from the Astley Bridge Sewage Works is sent down to Hacken for treatment, as the facilities for sludge disposal at Astley Bridge are quite inadequate, and unsatisfactory to the Mersey and Irwell Joint Committee.

When the reconstruction of the Tonge and Bradshaw Intercepting Sewers is completed, the whole of the sewage from the Astley Bridge District will be delivered to Hacken Sewage Works, and the existing works at Astley Bridge will be scrapped.

The Sewage Works Manager also reports that the Turton U. D. Council has made arrangements for the treatment at Hacken of the sewage at present draining to Bradshaw Sewage Works when the Bradshaw Brook Intercepting Sewer is completed. This will result in the closing of the Bradshaw Sewage Works which are at present inefficient.

CLOSET ACCOMMODATION.

The position of Bolton as regards closet accommodation at the close of 1920 and the close of 1932 is shown in the following table.

	Dec. 31st, 1920.	Dec. 31st, 1932.
Fresh-water closets ...	11,062 ...	... 33,085
Waste-water closets ...	15,219 ...	... 14,913
Pail closets	6,302 ...	... 492
Privy Middens	10,540 ...	... 722

25 privy middens, 8 pail closets and 76 waste-water closets were replaced by fresh-water closets in 1932.

Only 17 privy middens and 19 pail closets now remain that are capable without hindrance of being converted to the fresh-water carriage system.

There are, in addition to the above, 705 privy middens and 473 pail closets existing where the absence of sewer, the possession of a fresh-water closet indoor, or being in scheduled clearance and improvement areas and projected street and town improvement schemes prevent or obstruct their conversion.

Where there is a fresh-water closet indoor, and a privy midden or pail closet outside, every effort is made to induce the owner of the property to provide a dustbin of approved size and construction in lieu of the privy or pail closet.

In the following table is set forth the nature of the closet accommodation in the various wards of the Borough.

Closet Accommodation, 1932.

	No. of Closets Converted or Demolished, 1932.				F.W.Cs. provided in lieu of any other type and additions in new and old houses, 1932.	Present Closet Accommodation, 1932.				Per Cent. on	
	P.M.	Pail.	W.W.C.	F.W.C.	F.W.C.	P.M.	Pail.	W.W.C	F.W.C.	Dry System.	Water System.
Old Borough...	15	17	10	15	183	153	326	10783	18329	1·6	98·4
Great Lever	9	...	...	...	34	101	15	1104	2572	3·1	96·9
Tonge	...	...	1	...	110	42	28	762	3548	1·6	98·4
Astley Bridge	...	...	61	...	200	29	9	437	2043	1·5	98·5
Smithills	5	1	4	...	166	38	62	699	2127	3·4	96·6
Hulton	1	...	...	...	12	139	4	589	1106	7·8	92·2
Darcy Lever-cum-Breightmet	8	...	...	...	2	110	24	180	1095	9·5	90·5
Deane-cum-Lostock	...	...	...	...	20	83	10	210	1217	6·1	93·9
Heaton	4	...	...	...	27	27	14	149	1048	3·3	96·7
Extended Borough	42	18	76	15	754	722	492	14913	33085	2·5	97 5

PUBLIC CLEANSING.

The work of street cleansing and watering, gully cleansing, snow removal, refuse collection and disposal is carried out by the Corporation Cleansing Department's own staff.

The Cleansing Superintendent has furnished me with the following information.

Street Cleansing

Total mileage of streets cleansed.....$347\frac{3}{4}$.

$1\frac{1}{2}$	Miles	are cleansed	three times daily.	
$5\frac{1}{4}$	,,	,,	,,	twice daily.
$3\frac{1}{2}$	,,	,,	,,	daily.
2	,,	,,	,,	three or four times per week.
10	,,	,,	,,	twice weekly.
276	,,	,,	,,	weekly.
$49\frac{1}{2}$	,,	,,	,,	less than once weekly.

During the Summer-time the streets are watered as and when required.

Gully Cleansing.

About 80% of the street gullies are cleansed mechanically by vacuum gully-emptiers.

Refuse Collection.

House refuse is collected by motor and horse-drawn wagons fitted with covers.

Bins in the centre of the town are emptied daily.
Bins from dwelling-houses are emptied weekly.
Dry ashpits, once every 2 to 3 weeks.
Privies, from 6 to 8 weeks.
Pails, once to three times a week.

REFUSE DISPOSAL.

The disposal of refuse is by means of incineration, salvage, tipping, and rail for agricultural purposes.

Incineration	42·0%
Salvage and Incineration	15·1%
Controlled Tipping	37·4%
Crude Tipping	1·0%
Agricultural Purposes	4·5%

Dry house refuse is disposed of either by means of incineration, where all the refuse is reduced to clinker which is afterwards used for mortar-making or for clinker ashphalt for road-making, or by means of salvage and incineration. The refuse is separated by a Petrie & McNaught Salvage Plant which screens the refuse. The cinders from this are sold to be burned again, mostly for greenhouse fires. The fine dust is used for a covering for our tips or as a top dressing. Tins, &c. are picked out, pressed, and sold along with dry non-ferrous metal, clean paper, &c.

Cleansing of Cesspools.

The method of emptying cesspools varies according to conditions and situations, but they are mostly emptied by means of buckets direct into a motor or horse drawn tank. The refuse is either taken to the depôt to be treated for agricultural purposes or in some cases is discharged into the sewers.

SANITARY INSPECTION.

The nature and extent of the work done by the Sanitary Inspectors is shown in the following statement :—

General Inspections.

Houses	14034
Newly-infected houses	650
Schools	11
Common lodging-houses	846
Houses-let-in-lodgings	1530
Factories	125
Workshops	259
Workplaces	198
Offensive trades	67
Dairies, Cowsheds, and Milk-shops	597
Conversion of Closets	269
Drains...	607
Miscellaneous...	1561

Nuisances Found.	
Houses, workshops, cowsheds, etc., needing limewashing	720
Houses overcrowded	40
House roofs, walls, floors, etc., in bad repair	770
Insan. or insufficient closet accommodation	45
Ashpits or pails in bad repair	88
Defective or choked drains	204
Yards in bad repair	94
Animals kept as a nuisance...	26
Miscellaneous	757
Action Taken.	
Letters written	706
Informal notices served	629
Verbal notices	687
Legal notices served	435
Nuisances Abated.	
Houses, etc., limewashed	694
Overcrowding abated	27
House roofs, etc., repaired	629
Eaves gutters and downspouts repaired	384
Closets converted	109
Ashpits or pails repaired	99
Drains reconstructed (excluding closet conversions) ...	41
Drains opened, trapped or repaired	202
Yards repaired or flagged	89
Miscellaneous repairs	621
Miscellaneous nuisances abated	411
Disinfections.	
Houses disinfected	857
Articles disinfected	6061
Articles destroyed	80
Complaints.	
From Public	123
From Factory Inspector	5
Reports on complaints to Factory Inspector	9

PLACES UNDER INSPECTION.

Common lodging-houses	34
Houses-let-in-lodgings	21
Factories	340
Factory Chimneys	263
Workshops and Workplaces	811
Bakehouses	312
Outworkers' Premises	9
Offensive trades	24
Slaughterhouses	32
Cowsheds	353
Milk-shops	442
Public Sanitary Conveniences	25
Travelling Vans	132

PREMISES CONTROLLED BY BYE-LAWS OR REGULATIONS.

Common-Lodging-Houses.

The number of registered common-lodging-houses in Bolton is 34. In 1926 there were 38.

The ward distribution of these common-lodging-houses and the accommodation they afford is as follows:

Ward.	Houses.	Rooms.	Beds.
Exchange	9 ...	54 ...	184
East	20 ...	131 ...	682
Church	2 ...	17 ...	186
Derby	2 ...	16 ...	74
West	1 ...	17 ...	84

ACCOMMODATION FOR THE SEXES.

Description.	Houses.	Males.	Females.	Couples.
Males only	23	959	...	...
Females only	1	...	56	...
Males and Females	1	27	8	...
Females and Couples ...	3	...	23	19
Males and Couples	3	45	...	7
Males, Females and Couples	3	34	18	14
	34	1,065	105	40

The demand for common-lodging-house accommodation has greatly diminished in the past few years and is still steadily falling.

All the common-lodging-houses in Bolton are visited by the Sanitary Inspectors once a month between the hours of 11 p.m. and midnight, for the purpose of seeing that all is in order.

The Inspectors report that of the accommodation available in the common-lodging-houses the average amount occupied is about 50% at the present time.

Prices for beds vary to the following extent :

Single beds from 6d. to 1/2d, the latter price being for cubicles.
Double beds 1/2d. and 1/4d.

Houses-Let-in-Lodgings

New bye-laws with respect to houses intended or used for occupation by the working classes and let in lodgings or occupied by members of more than one family were made by the Council on the 2nd April, 1932, and these were approved by the Ministry of Health on the 15th June, 1932.

The bye-laws made by the Council in 1898 have been repealed.

During the year attention was called by notice in the Public Press to the new bye-laws and more particularly to the bye-law under which it is the duty of a landlord who lets a lodging-house to give the Council notice in writing of that letting.

Chiefly as a result of the Press notice, 122 landlords furnished the requisite information.

At the time of writing (June) 21 lodging-houses have been placed on the register; in 44 lodging-houses necessary work is in progress to make them comply with the bye-laws; 30 are not now used as lodging-houses, and in 30 cases the landlords have not definitely decided to carry out such alterations and repairs as are required.

The bye-laws do not apply to any house in which the landlord resides and not more than one family is lodged.

The bye-laws provide amongst other matters, for :—

(*1*) fixing the number of persons who may occupy a house,
(*2*) the registration and inspection of such houses,
(*3*) enforcing drainage and promoting cleanliness and ventilation,
(*4*) securing the adequate lighting of every room,
(*5*) requiring provision adequate for the use of and readily accessible to each family of—

(i) closet accommodation,
(ii) water supply and washing accommodation,
(iii) accommodation for the storage, preparation and cooking of foods.

Vans.

The number of living vans in Bolton at the close of 1932 was 24 as compared with 32 in 1931.

Particulars of the location and occupation of the vans are set forth below :—

Situation.	No. of Vans.	Occupants.	
		Adults	Children
Fern Street	4	7	—
31, Bridgman Street	2	3	—
Cheetham Court	1	1	2
Corner of Bridge St. and St. George's St. ...	7	12	2
Land adjoining Tonge Moor House ...	2	3	1
Radcliffe Road (200 yards from Long Lane)	1	2	2
Rear of 405, Radcliffe Road	1	1	—
Field adjoining Withins Lane	1	1	—
Adjoining Capitol Bleachworks	1	2	—
Back Darley Street	2	2	—
Cotton Street	1	2	—
Shurmer Street	1	2	—
	24	38	7

Offensive Trades.

Offensive trades are being carried on in 24 different premises in Bolton. The nature of these trades and their distribution in the wards of the town is shown in this table:

OFFENSIVE TRADES.

Trade.	Added Area.	West.	Halliwell.	Bradford.	Derby.	East.	Church.	North.	Rumworth.	Exchange.	TOTAL.
Tripe Boilers	1	...	...	2	...	...	1	...	...	...	4
Fellmongers and Tanners ...	...	1	...	1	...	...	...	...	...	...	2
Hide and Skin Depots	...	...	...	...	...	1	...	...	...	1	2
Gut Scraping	...	...	...	1	...	...	...	...	...	...	1
Blood Boiler	...	...	...	...	...	...	1	...	...	...	1
Soap Works...	1	...	...	...	...	...	...	...	...	...	1
Chemical Works	...	...	...	...	...	1	1	...	...	...	2
Muriatic Acid Works	1	...	...	...	...	...	...	...	...	...	1
Tar and Ammoniated Sulphate Works	1	...	...	...	...	...	...	...	...	...	1
Brick Works	6	...	1	...	...	...	...	...	1	...	8
Knackers' Yard	...	...	...	...	...	...	1	...	...	...	1
Total Offensive Trades	10	1	1	4	...	2	4	...	1	1	24

No serious nuisance has arisen in connexion with any of the above trades.

Slaughterhouses.

Most of the slaughtering in Bolton continues to be carried out in the private slaughterhouses, and consequently the inspection of meat necessitates a considerable amount of travelling between the different premises. These conditions must prevail until such time as a modern abattoir is constructed and equipped to deal with the whole of Bolton's meat supply.

There has been a change in the number of private slaughterhouses, one having been closed on account of disuse.

The present public abattoir has accommodation for the slaughtering of a very limited number of all classes of animals.

The 16 private slaughterhouses are used as follows :—

For Cattle, Sheep and Pigs ...	8 Slaughterhouses
For Cattle and Pigs	1 Slaughterhouse
For Cattle only	1 Slaughterhouse
For Pigs only	6 Slaughterhouses

During the year 2,422 visits were paid by the Veterinary Inspector and the Meat Inspector to the abattoir and private slaughterhouses.

Knackers' Yard.

During the year, 31 visits of inspection were paid to the local Knackers' Yard. The provisions of the Protection of Animals Act, 1911, were found to be carried out satisfactorily.

Factories and Workshops.

In accordance with the provisions of Section 132 of the Factory and Workshop Act, 1901, the Medical Officer of Health is required to make to the Secretary of State for the Home Office the following report which gives in addition to other information, the total number of defects found and notices served.

1.—Inspection.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories ... ... (Including Factory Laundries)	125	5	—
Workshops ... ... (Including Workshop Laundries)	259	1	—
Workplaces ... ... (Other than Outworkers' premises)	198	—	—
Total	582	6	—

2.—Defects.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found	Remedied	Referred to H.M. Inspector	
*Nuisances under the Public Health Acts:—**				
Want of cleanliness	16	16	—	—
Want of ventilation	—	—	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	1	1	—	—
Other nuisances	5	5	—	—
Sanitary accommodation { insufficient	2	1	—	—
Sanitary accommodation { unsuitable or defective	1	1	—	—
Sanitary accommodation { not separate for sexes	—	—	—	—
Offences under the Factory and Workshop Acts:—				
Illegal occupation of underground bakehouse (s. 101)	—	—	—	—
Other offences ... ... (Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order 1921).	—	—	—	—
Total	25	24	—	—

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

There was no outwork found to be carried on in unwholesome premises during the year.

SECTION IV

Housing.

HOUSING.

The housing conditions of the town received constant consideration during the year. The 1931 Census figures for Bolton were published in detail in November, 1932. The housing conditions had continued to improve. There were fewer persons per room, fewer persons per house, and relatively fewer houses containing more than one family than at any previous Bolton census.

There are still areas where bad houses or bad tenants or both make conditions which prevent the growth of children into wholesome citizens. Attempts continue to be made to remove these areas. The work is done in close co-operation with the Housing Department. Where houses have been demolished the local authority's obligation under the 1930 Housing Act to provide alternative accommodation has been met by the Housing Department.

The number of new houses completed in 1932 was 751 as compared with 678 in 1931.

The number of new houses completed in Bolton in each year since 1921 is as follows :

Year.	Private Enterprise.	Municipal Schemes.	Total.
1921	34	191	225
1922	18	462	480
1923	111	30	141
1924	351	3	354
1925	502	179	681
1926	610	251	861
1927	571	510	1,081
1928	319	160	479
1929	551	228	779
1930	204	492	696
1931	213	465	678
1932	240	511	751

The following table shows the number of houses and the number of inhabitants per house in Bolton since 1901.

		Houses.	Inhabitants per House.
Census	1901	36,177	4·64
,,	1911	41,585	4·34
,,	1921	42,475	4·28
Estimated	1925	44,193	4·08
,,	1926	45,054	3·92
,,	1927	46,088	3·86
,,	1928	46,547	3·88
,,	1929	46,678	3·88
,,	1930	47,295	3·83
Census	1931	47,433	3·73
Estimated	1931	47,838	3·74
,,	1932	48,589	3·65

The following table gives particulars as to numbers and situation in Wards of houses which were completed and certified during 1932, of all houses which were in course of construction during 1932, but which were unfinished at its close, and of all houses for which plans had been passed during 1932, but whose construction had not been begun when this year ended.

New houses certified, 1932.

Erected by Local Authority ...	511
Erected by other bodies or persons ...	240

Ward.	Number.
Old Borough	181
Tonge	110
Astley Bridge	200
Great Lever	34
Smithills	166
Hulton	12
Darcy Lever-cum-Breightmet	1
Deane-cum-Lostock	20
Heaton	27
Total	751

Houses in course of construction on 31st December, 1932.

	Number.
By the Local Authority	542
By other bodies or persons	256
Total	798

Houses for which plans had been approved but construction had not been commenced on 31st December, 1932.

	Number.
By the Local Authority	—
By other bodies or persons	118
Total	118

Housing Act, 1930.

The following figures show the progress that has been made from the date on which the Act became operative until the time of writing (30th June, 1933).

Unfit houses demolished in clearance areas ...	12
Number of persons displaced from such houses ...	54
Individual unfit houses (Sec. 19) demolished ...	60
Number of persons displaced from such houses ...	208
Number of houses made fit as a result of statutory notice	724
Insanitary houses demolished in anticipation of formal procedure	10
Insanitary houses closed (but not demolished) on an undertaking of the owner not to use for habitation	17
Number of houses made fit as a result of informal notice preliminary to formal notice	2,075

At the time of writing legal processes have been initiated for the closure or demolition of over 350 houses.

Housing Statistics, 1932.

1. Inspection of Dwelling-houses during the year.

(1) (*a*) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts) 3,403

(*b*) Number of Inspections made for the purpose ... 13,730

(2) (*a*) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925 1,595

(*b*) Number of Inspections made for the purpose ... 6,353

(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation 72

(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation 1,185

2.—Remedy of Defects during the year without Service of Formal Notices.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers 780

3.—Action under Statutory Powers during the year.

A. *Proceedings under Sections 17, 18 and 23 of the Housing Act, 1930.*

(1) Number of dwelling-houses in respect of which notices were served requiring repairs ... 272

(2) Number of dwelling-houses which were rendered fit after service of formal notices

(*a*) by owners 285

(*b*) by Local Authority in default of owners... ... 17

B. *Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 14

(2) Number of dwelling-houses in which defects were remedied after service of formal notices..

(*a*) by owners 14

(*b*) by Local Authority in default of owners... ... —

C. *Proceedings under Sections 19 and 21 of the Housing Act, 1930.*

(1)	Number of dwelling-houses in respect of which Demolition Orders were made	25
(2)	Number of dwelling-houses demolished in pursuance of Demolition Orders	34

D. *Proceedings under Section 20 of the Housing Act, 1930.*

(1)	Number of separate tenements or underground rooms in respect of which Closing Orders were made	3
(2)	Number of Separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit	—

E. *Proceedings under Section 3 of the Housing Act, 1925.*

(1)	Number of dwelling-houses in respect of which notices became operative requiring repairs ...	—
(2)	Number of dwelling-houses which were rendered fit after service of formal notices	
	(*a*) by owners	—
	(*b*) by Local Authority in default of owners	—
(3)	Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	—

F. *Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925.*

(1)	Number of dwelling-houses in respect of which Closing Orders became operative	—
(2)	Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	—
(3)	Number of dwelling-houses in respect of which Demolition Orders became operative ...	—
(4)	Number of dwelling-houses demolished in pursuance of Demolition Orders	—

4.—Number of Houses owned by the Local Authority under the Housing Acts 3,275

SECTION V.

Inspection and Supervision of Food, etc.

MILK.

There are a variety of enactments designed to assist in providing the public with a clean milk supply. The following paragraphs describe the work of the Public Health Department in relation to milk.

The Milk and Dairies Order, 1926.

COWKEEPERS, DAIRYMEN AND PURVEYORS OF MILK.

Cowkeepers on register (1931)	125
,, added to register (1932)	1
,, discontinued (1932)	2
Total ...	124
Cowsheds on register (1931)	356
,, added to register (1932)	1
,, discontinued (1932)	4
Total ...	353

The following statement shows the number of cowkeepers, cowsheds, number of cows provided for, and the average number of cows in sheds in the respective districts on 31st December, 1932 :—

Number of District	Cowkeepers	Cowsheds	Number of Cows provided for	Average number of Cows in sheds
1	14	41	364	295
2	31	87	907	678
3	16	37	372	302
4	20	64	522	370
5	11	31	290	230
6	8	19	154	90
7	24	74	671	630
Totals	124	353	3,280	2,595

Number of dairies and premises of milk purveyors on register (31st December, 1932) 581

In accordance with the provisions of the Milk and Dairies Acts and Orders routine inspection of dairy farms has been carried out. Our Veterinary Surgeon, Mr. R. P. Holmes, F.R.C.V.S., reports that approximately 285 visits were paid to farms, allowing the cows and cowsheds to be inspected three times in the year.

At each farm thorough examinations were made of the udders of all cows for the purpose of detecting early lesions of tuberculosis or other notifiable diseases.

During the year 8 samples of milk were taken from individual cows with suspected tuberculosis of the udder and submitted to the biological test. Three of these samples were found to contain tubercle bacilli, and five were reported to be negative. The cows from which the positive milk samples were obtained were slaughtered and dealt with under the provisions of the Tuberculosis Order.

Two mixed samples of milk involving groups of cows were taken, both of which on examination were reported to be negative.

On most occasions when visiting farms the Veterinary Officer has been accompanied by the Sanitary Inspector of the Department in whose district the farms are situated. Careful attention has been directed towards securing cleanliness of the cows, cowsheds, dairies, dairy utensils, and all equipments connected with the milk supply.

Milk (Special Designations) Order, 1923.

The following licences were granted during the year 1932 under this Order :—

Producer's Licence to use the designation "Certified" ... (Licence issued by Ministry of Health.)	1
Dealer's Licence to use the designation "Certified" ...	1
Producer's Licence to use the designation "Grade A" ...	4
Dealer's Licence to use the designation "Grade A" ...	1
Dealer's Licence to use the designation "Pasteurized" ... (Licence is in respect of a Pasteurizing establishment.)	1
Supplementary Licence to use the designation "Pasteurized"	1

"Certified" Milk.

A Licence to produce "Certified" Milk has been granted by the Ministry of Health to one dairy farmer in the Borough.

In carrying out the provisions of the Order with regard to producers of "Certified" Milk, frequent visits have been paid to the farm and every animal of the herd has been submitted to a veterinary examination and to the prescribed intra-dermal tuberculin test twice during the year.

"Grade A" Milk.

Licences to produce "Grade A" Milk have been granted by this department to four dairy farmers in the Borough.

As in previous years these farms have been visited each month and a clinical examination made of all cows in the herds. In addition to examining the cows in the herds, all recently purchased cows were submitted to a careful veterinary examination before being admitted to the herds. The provisions of the Order in regard to cleanliness of the cows, cowsheds, dairies, and all equipment required in the production, storage, and bottling of the milk have on all occasions been found to be carried out satisfactorily.

The Examination of Milk.

The Borough Analyst reports as follows on the samples of milk submitted to him for examination.

Chemical Analysis.

Samples examined	Genuine	Adulterated
163	144	19

All the samples were examined for preservatives and colouring matter. These were found to be absent in all cases.

The satisfactory quality has been maintained, the average (exclusive of skimmed milk) being for the year:—

Milk fat.	Non-fatty solids.	Water.
3·64%	8·75%	87·61%

Minimum limit:—Milk fat, 3·00%; Non-fatty solids, 8·50%

The following table shows the monthly variation:

Month.	No. of samples.	Milk fat.		Non-fatty solids.	
January	23	4·13		8·70	
February	13	3·49	3·86%	8·63	8·68%
March	7	3·69		8·69	
April	20	3·63		8·67	
May	21	3·44	3·53%	8·79	8·79%
June	12	3·53		8·98	
July	10	3·61		8·87	
August	19	3·54	3·43%	8·78	8·89%
September	7	2·85		9·21	
October	2	4·07		8·92	
November	4	3·74	3·79%	8·66	8·60%
December	21	3·77		8·56	

Bacteriological Examination.

Vended Milk. (Bottled).

No Ministry of Health Standard of Purity.

No. of samples examined...	6	
Average Agar count per 1 c.c.	19,433	
No. of samples with B. Coli in 1/1000 c.c.	0	
,, ,, ,, 1/100 c.c. absent in 1/1000 c.c.	0	
,, ,, ,, 1/10 c.c. ,, 1/100 c.c.	1	or 16·7%
,, ,, ,, 1 c.c. ,, 1/10 c.c.	3	or 50.0%
,, ,, ,, absent in 1 c.c.	2	or 33·3%

The above 6 samples contained total bacteria per 1 c.c. as follows :—

Under 1,000	0
1,000 to 5,000	2
5,000 to 10,000	1
10,000 to 20,000	0
20,000 to 30,000	1
30,000 to 50,000	1
50,000 to 200,000	1

"Grade A" Milk.

Ministry of Health Standard :—

Agar count not to exceed 200,000 per 1 c.c.

B. Coli absent in 1/100 c.c.

Number of samples examined	59	
Average Agar count per 1 c.c.	5·457	
No. of samples with B. Coli in 1/100 c.c.	2	or 3·4%
,, ,, ,, in 1/10 c.c. absent in 1/100 c.c.	2	or 3·4%
,, ,, ,, in 1 c.c. ,, 1/10 c.c.	4	or 6·8%
,, ,, ,, absent in 1 c.c.	51	or 86·4%

The above 59 samples of "Grade A" Milk contained total bacteria per 1 c.c. as follows :—

Under 1,000	38
1,000 to 5,000	18
5,000 to 10,000	2
10,000 to 20,000	0
20,000 to 30,000	0
30,000 to 50,000	0
50,000 to 200,000...	0
Over 200,000	1

"Certified" Milk.

Ministry of Health Standard:—

Agar count not to exceed 30,000 per 1 c.c.

B. Coli absent in 1/10 c.c.

No. of samples examined...	64
Average Agar count per 1 c.c.	3,752
No. of samples with B. Coli in 1/100 c.c.	0
" " " in 1/10 c.c. absent in 1/100 c.c.	8 or 12·6%
" " " in 1 c.c. " 1/10 c.c.	11 or 17·1%
" " " absent in 1 c.c.	45 or 70·3%

The above 64 samples of "Certified" Milk contained total bacteria per 1 c.c. as follows:—

Under 1,000	21
1,000 to 5,000	35
5,000 to 10,000	4
10,000 to 20,000	1
20,000 to 30,000	2
Over 30,000	1

"Pasteurized" Milk.

N.B.—This milk although really Pasteurized, is sold as ordinary bottled milk without guarantee.

Ministry of Health Standard:—Agar count not to exceed 100,000 per 1 c.c.

No. of samples examined	25
Average Agar count per 1 c.c.	2,916
No. of samples with B. Coli in 1/100 c.c.	1 or 4·0%
" " " in 1/10 c.c. absent in 1/100 c.c.	3 or 12·0%
" " " in 1 c.c. " 1/10 c.c.	9 or 36·0%
" " " absent in 1 c.c.	12 or 48·0%

The above 25 samples of "Pasteurized" Milk contained total bacteria per 1 c.c. as follows:—

Under 1,000...	5
1,000 to 5,000...	15
5,000 to 10,000...	5

Tuberculosis Order of 1925.

This Order with its amendment Order of 1931 is designed to prevent the sale of milk containing the tubercle bacillus and to decrease the incidence of tuberculosis amongst cattle.

Certain specified conditions suggestive of tuberculosis must be notified to the Local Authority. An obligation is also placed on the Council to provide veterinary inspection for the detection of such conditions. Any animals found to be suffering from tuberculosis must be slaughtered.

The following table shows the number of animals specially examined under the Order, the number of animals slaughtered, and the form in which they were diseased:—

Total Number of animals examined	Number of animals slaughtered	Number with tuberculosis of udder	Number giving tuberculous milk	Number with tuberculous emaciation	Number with chronic cough and definite signs of tuberculosis
607	22	4	...	9	9

MEAT.

The systematic inspection of carcases in the slaughter-houses and of meat exposed for sale in the shops are important measures which are carried out carefully. The following report has been supplied by Mr. R. P. Holmes the Veterinary Surgeon.

Public Health (Meat) Regulations, 1924.

The regulations require notification to the Local Authority of the time, day and place of any slaughtering; when written notice is given of a fixed time of regular slaughtering no Special Notice is required.

The following notices were received:

Written notice of regular slaughtering on fixed days. 13.
Notifications of slaughtering at other than fixed days. 354.

245 notices were received of diseased or unsound meat.

Of these notices 169 related to cattle, 3 to sheep, 69 to pigs, 4 to calves.

The parts of the regulations dealing with butchers' stalls and shops and with the transport and handling of meat, have been carefully administered. Frequent visits of inspection are made.

The following table shows the total number of animals slaughtered in the Borough during the year; the number and percentage of animals affected with disease; the number and percentage of animals affected with tuberculosis only; and the number of cows affected with tuberculosis of the udder.

	Total Number of Animals Slaughtered	Animals affected with Disease		Animals affected with Tuberculosis		Cows affected with Tuberculosis of the Udder
		Number	Per-centage	Number	Per-centage	Number
CATTLE	10,765	1,724	16·0	846	7·8	22
CALVES	1,337	27	2·0	10	·75	—
SHEEP	48,756	287	·59	—	—	—
PIGS	9,236	644	6·9	552	5·9	—

Carcases Found to be Affected with Disease.

Disease or Defect.	Examined				Action taken		Examined	Action taken		Examined	Action taken		Examined	Action taken	
	Cows	Bullocks	Heifers	Bulls	Whole carcase destroyed	Parts and Organs destroyed	Calves	Whole carcase destroyed	Parts and Organs destroyed	Sheep	Whole carcase destroyed	Parts and Organs destroyed	Pigs	Whole carcase destroyed	Parts and Organs destroyed
Tuberculosis	705	72	29	40	149	697	10	4	6	...	...	...	552	27	525
Pneumonia	2	...	1	...	...	3	...	...	...	...	...	...	2	1	1
Pleurisy	3	3	...	3	...	9	...	...	...	1	...	1	9	...	9
Mastitis	43	...	...	...	...	43	...	...	...	...	...	...	...	...	.
Nephritis	2	...	...	...	...	2	1	1	...	...	...	...	...	...	.
Pericarditis	2	1	1	1	...	5	...	...	...	1	...	1	...	...	..
Abscess	17	11	1	...	...	29	...	...	...	1	...	1	2	...	2
Bacterial Necrosis ...	12	5	1	1	...	19	.	...	...	1	...	1	...	...	..
Actinomycosis	8	2	1	1	...	12	...	...	...	...	...	...	...	...	
Echinococcus	68	4	3	3	...	78	...	...	...	9	...	9	9	...	9
Distomatosis	218	350	16	21	...	605	...	...	...	226	...	226	2	...	2
Decomposition	2	...	...	1	3	...	...	...	...	23	23	...	1	1	.
Angioma	42	...	...	...	...	42	...	...	...	...	...	...	...	...	..
Emaciation	...	..	...	...	...	...	...	...	...	...	...	...	1	1	.
Johne's Disease	6	1	1	...	6	2	...	...	...	...	...	...	...	...	.
Traumatism	5	...	...	1	...	6	...	...	...	...	...	...	...	...	
Œdema	5	...	...	...	5	...	...	...	...	15	15	...	...	...	..
Fevered	4	...	...	...	4	...	...	...	...	...	...	...	...	...	
Cirrhosis	...	4	...	...	...	4	...	...	...	...	...	...	40	...	4
Cysticercus Tenuicollis ..	...	...	...	...	...	...	...	...	...	10	...	10	24	...	24
Immaturity	...	...	...	...	...	...	12	12	...	...	...	...	...	...	
Pyæmia	...	...	...	1	1	...	...	...	...	...	...	...	...	...	
Peritonitis	...	...	...	...	...	...	1	1	...	...	...	...	...	...	
Joint Set	...	...	...	...	...	...	2	2	...	...	...	...	...	...	
Jaundice	...	...	...	...	...	...	1	1	...	...	...	...	1	1	.
Swine Erysipelas... ...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	
Total	1144	453	54	73	168	1556	27	21	6	287	38	249	644	32	11

Number of Organs Destroyed for Tuberculosis and Other Conditions in the Different Classes of Animals during 1932

	Cattle.	Calves.	Sheep.	Pigs.	Total.
LUNGS:					
Tuberculosis	723	9	...	280	1,012
Other conditions ...	100	17	48	18	183
HEARTS:					
Tuberculosis	324	7	...	261	592
Other conditions ...	24	17	38	8	87
BOWELS:					
Tuberculosis	371	4	...	180	555
Other conditions ...	25	17	38	7	87
STOMACHS:					
Tuberculosis	328	4	...	177	509
Other conditions ...	22	17	38	7	84
SPLEENS:					
Tuberculosis	326	4	...	190	520
Other conditions ...	22	17	38	5	82
LIVERS:					
Tuberculosis	450	8	...	275	733
Other conditions ...	715	17	290	64	1,086
KIDNEYS:					
Tuberculosis	14	...	...	...	14
Other conditions ...	10	...	...	4	14
HEADS:					
Tuberculosis	440	4	...	484	928
Other conditions ...	29	17	38	2	86
TOTALS	3,923	159	528	1,962	6,572

Weight of Unsound Meat Destroyed.

	Number	tons.	cwts.	qrs.	lbs.
Beef Carcases ...	178	35	1	1	8
,, Fore Quarters ...	22	1	7	2	0
,, Hind Quarters ...	6	...	7	2	0
,, Briskets ...	150	1	0	0	10
,, Offals ..	...	28	9	2	13
Mutton Carcases ...	38	...	13	1	15
,, Offals ..	...	...	6	3	12
Pork Carcases ...	32	1	15	0	11
,, Offals ...	...	3	5	3	0
Veal Carcases ...	21	...	10	0	13
,, Offals ...	...	...	3	2	13
Total Weight ...	—	73	0	3	11

In addition to the above over 6 cwt. of unsound imported meat and offals were destroyed chiefly on account of decomposition.

Disposal of Unsound Meat Voluntarily Surrendered.

All unsound meat is disposed of in the Corporation destructor. The Public Health Department pays £4 per ton by way of compensation.

Fish, Poultry and Rabbits.

Fish.

During the year 2 tons 2 hundredweights of unsound fish were voluntarily surrendered and destroyed.

Poultry and Rabbits.

Over 8 cwts. of unsound poultry and rabbits were destroyed during the year.

Proceedings were instituted in one instance where unsound rabbits were exposed for sale for human consumption. A conviction was obtained and a fine of 10/- imposed.

Other Food Stuffs.

The following canned goods and provisions were destroyed as unsound.

	Number of Tins, etc.	cwts.	qrs.	lbs.
Boiled Ham	1	...	...	10
Bacon	...	...	2	25
Corned Beef	3	...	...	18
Chocolate	14	...	2	14
Tinned Peas	9	...	...	18
Tinned Peaches ...	124	2	0	24
	151	3	3	25

During the year 4 tons 17 cwts. of unsound fruit and vegetables were destroyed as unfit for food.

Sale of Food Order, 1921.

Throughout the year, the provisions of this Order have been strictly enforced. With the exception of a few minor cases of neglect, the requirements of the Order have been well observed.

Proceedings were instituted against a meat vendor, for failing to label imported meat; a conviction was obtained and a fine of 40/- was imposed.

Merchandise Marks Act, 1926.

Under this Act, Orders in Council are made which provide for the compulsory marking of certain imported goods. Imported goods which come within the provisions of the Act must be marked "Foreign" or the country of origin indicated. Goods from the Dominions or Colonies are required to be marked "Empire" or the name of the exporting Dominion.

Orders have been made at various dates in respect of honey, fresh apples, currants, sultanas and raisins, eggs in shell and dried eggs, oats and oat products, raw tomatoes, chilled salmon and butter.

The provisions of these Orders have been carried out in accordance with the instructions of the Ministry of Agriculture and Fisheries.

Annual Report of the Public Analyst and Bacteriologist for the year ended December 31st, 1932.

The following is the report on the work carried out in the Borough Laboratory during 1932.

SUMMARY.

	Number of Samples.
Food and Drugs	422
Bacteriological Examinations for the M.O.H.	1,101
Bacteriological Examinations of Milk	154
Water Analyses for the Waterworks Engineer	683
Gas Examinations	288
Fertilizers and Feeding Stuffs	9
Examinations for the Public Assistance Officer... ...	84
Miscellaneous Analyses	127
	2,868

PUBLIC HEALTH COMMITTEE.

FOOD AND DRUGS.

	Total.	Genuine.	Adulterated.	Percentage Adulterated.
Milk	163	144	19	13·2
Condensed Milk ...	3	3	...	...
Cream	3	3	...	...
Butter	21	21	...	...
Margarine	16	16	...	...
Cheese	5	5	...	...
Lard	5	5	...	...
Tea	30	30	...	...
Coffee	15	15	...	...
Cocoa	4	4	...	...
Sugar	33	32	1	3·0
Jam and Marmalade ..	4	4	...	...
Meat Products ..	7	7	...	...
Cereals	18	18	...	...
Condiments and Spices	25	23	2	8·0
Biscuits and Cakes ...	2	1	1	50·0
Sweets	19	19	...	..
Beverages (Cordials)...	5	5	...	...
Drugs	22	22	...	...
Miscellaneous ...	22	22	...	...
	422	399	23	5·50

MILK—See pages 53-58.

BUTTER.

21 samples have been examined. All were genuine and of good quality. In no case was the maximum legal limit for water exceeded (16·0%) and in no case was preservative found.

CONDENSED MILK.

3 samples have been examined. These were of good quality and satisfied the stated concentration figures on the labels.

CREAM.

3 samples have been examined and these were found to be natural products free from preservatives and thickening agents.
Milk Fat 45·00%, 45·50%, 45·54% respectively.

MARGARINE.

16 samples have been examined. All the samples were sweet and wholesome, whether of animal or vegetable origin.

The continued absence of boron preservatives which, prior to the Preservative Regulations were almost invariably present, entirely vindicates the legislation which prohibited their use.

CHEESE.

5 samples were examined. These were whole meat of satisfactory quality. (33 to 35% Milk Fat).

COFFEE.

15 samples were examined. These were of satisfactory quality without admixture of any kind.

MEAT PRODUCTS.

7 samples were examined with special regard to preservatives These were proved to be absent in every case.

SWEETS.

19 samples were examined. These were specially examined for arsenic and deleterious ingredients. In no case did the arsenic content exceed 1/200th of a grain per pound and no injurious substance was detected.

CAKES.

2 samples were examined. One of these contained a very small proportion of boric acid (0·01%).

Condiments and Spices.

25 samples were examined. 23 of these were genuine and one other sample sold as Superior Table Vinegar was found to consist entirely of dilute pyroligneous acid and was furthermore 6·25% deficient in acetic acid.

1 sample of mustard pickles was found to contain 0·13% of boric acid.

Drugs.

22 samples were examined. These were of good quality and complied with the requirements of the British Pharmacopœia.

Miscellaneous.

22 samples were examined.

Sugars.

33 samples were examined. One of these was adulterated with the unusual adulterant Sodium Thiosulphate. On investigation, this was proved to have occurred at the house of the purchaser and samples taken from the retailer were found to be of excellent quality.

Preservatives.

All samples were examined for preservatives (where such might reasonably be expected to be present).

	No. examined.	No. containing Preservative.	Amount and nature of Preservative.
Milk	163	0	...
Potted Meats	7	0	...

	No. examined.	No. containing Preservative.	Amount and nature of Preservative.
Cakes	2	1	0·01% boric acid.

	No. examined.	No. containing Preservative.	Amount and nature of Preservative.
Condiments and Spices	25	1	0·13% boric acid.

Colouring Matter.

	No. examined.	No. containing colouring matter.
Milk	163	0

Bacteriological Examinations.

(For the M.O.H.)

	Total.	Positive.	Negative.	Doubtful.
Tuberculosis	722	255	467	...
Diphtheria	368	39	328	1
Fever B. Typhosus ...	11	...	11	...
Para Typhoid A.	11	...	11	...
Para Typhoid B.	11	...	11	...

Bacteriological Examination of Milk—See page 54.

Miscellaneous Examinations.

20 Urines.
12 Waters.
9 Pathogenic specimen other than those previously tabulated.
12 Investigations of atmospheric pollution.
5 Wallpapers.
3 Milks.
40 Bath waters.
2 Medicines.
1 Rags.
1 Water sediment.

Bath Waters.

Since the installation in April 1930, of a chlorine plant at Bridgeman Street Baths the water has been uniformly excellent, and gives better bacteriological results than that of Moss Street and High Street, where Sodium Hypochlorite treatment is used.

Average Agar Counts and B. Coli Contents.

(Monthly Examinations).

Agar Counts.

	High Street.	Moss Street. Ladies.	Moss Street. Gents.	Bridgeman Street. Ladies.	Bridgeman Street. Gents.
per 1 c.c.	30,028 ...	19,067	10,280 ...	1,684	1,189

B. Coli.

−in 10 c.c.s.	25·0 ...	0	62·5 ...	87·5	87·5%
+in 10−in 5 c.c.s. ...	25·0 ...	37·5	25·0 ...	0	0%
+in 5−in 2 c.c.s. ...	25·0 ...	37·5	12·5 ...	12·5	12·5%
+in 2−in 1 c.c. ...	0 ...	0	0 ...	0	0%
+in 1−in 1/10 c.c. ...	25·0 ...	12·5	0 ...	0	0%
+in 1/10 c.c. ...	0 ...	0	0 ...	0	0%
+in 1/1000 c.c. ...	0 ...	12·5	0 ...	0	0%

Fertilizers and Feeding Stuffs.

9 Feeding Meals have been examined; of these, 5 did not agree with Warranty.

1. Albuminoids 14·3% excess of Warranty.
   Fibre 19·5% deficient.
2. Phosphoric Anhydride 7·6% excess of Warranty.
   Salt 35·1% deficient.
3. Oil 44·0% excess of Warranty.
4. Awms 30·0% excess of Warranty.
5. Awms 30·0% excess of Warranty.

Waterworks Committee.

The water comprising the town's supply is examined bacteriologically weekly, and chemically monthly. The findings show that generally speaking the water is of excellent quality. For details see page 27.

1 Aluminium kettle.
2 Deposits.

Gas Committee.

Since the abandonment of the Candle Power Test, the gas has been examined for Total Sulphur, Ammonia and Sulphuretted Hydrogen.

Watch Committee.

4 Phosphorus Pastes.

Streets Committee.

1 Water.
2 Aluminium sample letters for corrosion tests.

Public Assistance Committee.

54 Milks.
30 Margarines.

The average composition of these milks was:—

Milk fat	3·72%
Non-fatty solids	8·74%
Water	87 54%

These figures are quite satisfactory; in 2 cases only did the samples fail to comply with the Statutory Legal Limit.

The Margarines satisfied the Committee's requirements of 85% Animal Fat.

Cleansing Committee.

8 Fish Meals.

Education Committee.

1 Aggregate.

Royal Infirmary.

4 Milks.
1 Urine.

Sale of Food and Drugs Acts.

ADMINISTRATIVE RETURN OF ACTION TAKEN WITH REGARD TO SAMPLES NOT REPORTED TO BE GENUINE.

Article.	Result of Analysis.	Action taken.
Milk	·9 % added water	Appeal to cow sample
Milk	1·1 % ,, ,, ...	No action taken
Milk	4·8 % ,, ,, ...	Informal sample. No action.
Milk	15·7 % ,, ,, ...	No action as a result of appeal to cow sample
Milk	17·6 % ,, ,, ...	Appeal to cow sample
Milk	1·7% deficient in fat	No action taken
Milk	3·3 % ,, ,, ...	Informal sample. No action.
Milk	3·3 % ,, ,, ...	No action taken
Milk	10·7 % ,, ,, ...	Proceedings were taken against the farmer who sold the milk to this milk seller.
Milk	17·3 % ,, ,, ...	Withdrawn on payment of 4/- costs
Milk	17·3 % ,, ,, ...	Withdrawn on payment of 4/- costs
Milk	17·3 % ,, ,, ...	No legal action taken as a result of appeal to cow. Veterinary Officer inspected the herd and advised as to feeding, etc. Two thirds of the cows were newly calved and had just been turned out in wet weather with no other cattle food.
Milk	20·0 % ,, ,, ...	
Milk	28·3 % ,, ,, ...	

Sale of Food and Drugs Acts.—*Continued.*

Article.	Result of Analysis.	Action taken.
Milk	27·3 % deficient in fat	Withdrawn on payment of 4/- costs.
Milk	27·3 % ,, ,, ...	Fined £5 and 10/6 Analyst's fee.
Milk	·5 % added water 25·3 % deficient in fat	Fined £1.
Milk	1·2 % added water 1·7 % deficient in fat	No action taken.
Skimmed Milk ..	2·3 % added water	No action taken.
Sugar	Contained 33·66% of sodium thiosulphate	Accidentally adulterated at home of purchaser.
Cake	Contained a boron preservative equivalent to ·01% of boric acid	No action taken.
Table Vinegar ...	Consisted wholly of artificial vinegar. Deficient in acetic acid to 6·25%	Fined 4/-.
Mustard Pickles ...	Contained a boron preservative equivalent to ·13% of boric acid	No action taken Informal sample. No official sample could be taken as the stock held by the vendor had been exhausted.

OFFENCES OTHER THAN ADULTERATIONS.—Nil.

Diseases of Animals Acts, 1894 to 1927.

The following is a brief account of the principal Orders under which work has been carried out during the year.

Tuberculosis Order, 1925 and 1931.

See page 56.

The Anthrax Order of 1928.

No cases of this disease have occurred in the Borough during the year. Although not suspected of Anthrax, the deaths of four cows were reported to this department as having occurred without history of previous illness. In each case the premises were visited and blood smears obtained, which on microscopical examination were found to be negative.

Foot and Mouth Disease.

No outbreaks of this disease have occurred in the Borough during the year.

Parasitic Mange Orders of 1911 and 1918.

No outbreaks of parasitic mange have occurred in the Borough during the year, and no suspected cases have been reported.

The Swine Fever Order.

One notification of suspected disease was reported during the year but on investigation the diagnosis was not confirmed.

Markets, Sales and Lairs Orders and Transit of Animals Orders.

These Orders provide for the efficient cleansing and disinfection of all markets and lairs in which animals have been exposed for sale, and of railway trucks and pens used in the transit of animals. The Transit of Animals Order was amended in 1931 and made to apply to road vehicles.

During the year there has been constant supervision at the railway sidings and at the sales of animals and the Orders have been effectively carried out.

The Live Poultry Order of 1919, which provides for the cleanly and humane transit of poultry was also the subject of adequate enquiry.

General Food Inspection.

In addition to the work which has been detailed in the previous pages, the Veterinary Officer, Mr. R. P. Holmes, F.R.C.V.S., and the Assistant Meat Inspector; Mr. H. Whitaker, have made a large number of visits in connection with the importation of animals and the licensing of their further movement. They have also made visits to various premises to make general inspections of animals for the detection of scheduled contagious diseases.

In the course of these inspections at railway sidings, public markets, farms and slaughterhouses, 9,458 bovine animals, 23,997 sheep, and 6,190 pigs were examined.

The following Table shows the number of visits paid to shops, stalls, and stores.

Shops, Stalls and Stores.

Beef Butchers ...	1,826	Provision Dealers ...	1,659
Pork Butchers ...	921	Fruiterers	1,533
Wholesale Meat Stores	295	Fishmongers	853
Cold Stores	32	Street Hawkers	616
Tripe Works ...	47	Food Preparation Premises	522

Inspection of Markets.

The Cattle Market has been visited weekly for the purpose of inspecting the animals exposed for sale, and afterwards to supervise the cleansing and disinfection of the premises.

The following table shows the number of animals examined at the Cattle Market during 1932.

The figures for the previous year are given for comparison :—

Year	Number of Visits	Authorised Market	Cattle Market				
		Irish Dairy Cattle	Cattle	Sheep	Pigs	Calves	Total
1932	96	178	1,346	20	232	1,476	3,074
1931	98	Nil	1,430	27	169	1,202	2,828

Rats and Mice (Destruction) Act, 1919.

During the National Rat Week, posters were displayed and copies of the Ministry's Bulletin No. 30 " Rats and how to exterminate them " were distributed to the occupiers of such premises as are liable to infestation. Rat catchers have been employed during the year on Corporation premises.

Throughout the year efforts were maintained to assist in the eradication of these pests.

SECTION VI.

Prevalence of, and Control over, Infectious Diseases.

ACUTE INFECTIOUS DISEASES.

(**Notifiable**).

The infectious diseases compulsorily notifiable in Bolton are the following :—

Smallpox.
Scarlet Fever.
Diphtheria & Membranous Croup.
Enteric or Typhoid Fever.
Pneumonia (Acute Primary and Acute Influenzal).
Cholera.
Plague.
Puerperal Fever.
Puerperal Pyrexia.
Cerebro-spinal Fever.
Acute Poliomyelitis.
Acute Polio-encephalitis.
Acute Encephalitis Lethargica.
Typhus Fever.
Relapsing Fever.
Continued Fever.
Dysentery.
Ophthalmia Neonatorum.
Erysipelas.
Malaria.
Tuberculosis (Pulmonary and other forms).

Prevalence and Mortality.

Below are shown the number of cases of notifiable diseases notified in Bolton in 1932 and the number of deaths resulting from each of these notifiable diseases.

Notifiable Diseases during the year 1932.

Disease.	Total Cases Notified.	Total Deaths.
Scarlet Fever	589 ...	1
Diphtheria	42 ...	3
Enteric Fever (including Paratyphoid)	1 ...	...
*Pneumonia	86 ...	141
Puerperal Fever	3 ...	3
Puerperal Pyrexia	9 ...	...
Cerebro-spinal Fever ...	5 ...	5
Acute Poliomyelitis	1 ...	...
Encephalitis Lethargica ...	1 ...	3
Dysentery	1 ...	...
Ophthalmia Neonatorum ...	22 ...	...
Erysipelas	62 ...	3
Malaria	1 ...	...
Tuberculosis (all forms) ...	222 ...	134

* The cases notified are Acute Primary and Acute Influenzal, but the deaths include all forms of Pneumonia.

By notification-rate of any disease is meant the number of cases notified per thousand inhabitants.

The following Table shows how Bolton stands in regard to notifiable infectious diseases when compared with England and Wales.

NOTIFICATION-RATES IN 1932.

	Bolton.	England and Wales.
Smallpox	— ...	·05
Scarlet Fever	3·31 ...	2·12
Diphtheria	·23 ...	1·08
Enteric Fever	·00 ...	·06
Puerperal Fever	·01 ...	·05
Puerperal Pyrexia	·05 ...	·14
Erysipelas	·34 ...	·36

Smallpox.

Bolton was free from smallpox during the year.

Scarlet Fever.

The unusually large number of cases of scarlet fever occurring in adults was, as in 1928, 1929, 1930, and 1931, a noticeable feature of the disease in 1932.

589 cases of scarlet fever were notified, and of these 416 were admitted to hospital. Only one case of scarlet fever died.

The average annual number of cases of scarlet fever notified during the last ten years has been 462.

The number of cases of scarlet fever notified in Bolton in each year since 1920 was as follows :—

Year.	No. of cases notified.
1920	541
1921	591
1922	453
1923	642
1924	269
1925	232
1926	245
1927	276
1928	840
1929	717
1930	452
1931	365
1932	589

Encephalitis Lethargica.

One case was notified during 1932 as suffering from encephalitis lethargica. (This case died.) There was one other death registered as being due to encephalitis lethargica, which had not been notified during life.

Ophthalmia Neonatorum.

The number of cases notified during the year was 22, compared with 16 in 1931.

Four of the cases notified were seen by an eye specialist, and in five cases a district nurse attended daily.

In no case was there impairment of vision.

All cases not in hospital are visited daily by one of our health visitors.

Particulars of the cases notified in 1932 are as follows :

Cases.			Vision.			
Notified	Treated		Un-impair'd	Impaired	Total Blind-ness	Deaths
	At home	In hospital				
22	19	1 as out-patient 2 as in-patients	21	—	—	1

Puerperal Fever.

Three notifications of puerperal fever were received during 1932. The cases made good recovery.

Two of the cases were treated in hospital. All cases of puerperal fever are recommended to go to hospital, and no charge is made.

The following table asked for by the Ministry of Health, gives detailed information regarding all cases of notifiable infectious disease in Bolton during 1932.

NOTIFIABLE DISEASES DURING THE YEAR 1932.

Disease.	Cases Notified.													Cases admitted to Borough and other Hospitals.	Deaths.												
	Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	65 and over	At all Ages.		Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	65 and over	At all Ages.
Scarlet Fever	...	13	23	45	49	257	134	21	42	3	2	...	589	416	...	...	...	1	...	...	...	...	...	...	...	...	1
Diphtheria	1	1	2	2	5	11	7	4	8	1	...	...	42	30	...	1	1	...	1	...	...	...	...	...	...	...	3
Enteric Fever...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Pneumonia	5	5	5	3	...	10	3	7	16	12	10	10	86	...	29	12	4	...	3	7	2	1	9	14	30	30	141
Puerperal Fever	...	...	...	...	...	...	...	...	1	2	...	...	3	2	...	...	...	...	...	...	...	1	...	2	...	...	3
Puerperal Pyrexia ...	...	...	...	...	...	...	...	...	9	...	...	...	9	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever ...	3	...	...	1	...	...	...	...	1	...	...	...	5	1	3	...	...	1	...	...	1	...	...	...	...	...	5
Acute Poliomyelitis ...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	1	...	1	1	...	3
Dysentery	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia Neonatorum	22	...	...	...	...	...	...	...	...	...	...	...	22	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	1	...	...	...	...	...	4	3	8	9	29	8	62	...	1	...	...	...	...	...	...	...	...	...	...	2	3
Malaria	...	...	...	...	...	...	...	...	...	1	...	...	1		...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis :																											
a. Pulmonary	...	1	1	...	...	5	6	17	59	33	42	6	170	104	...	...	...	...	...	1	...	10	45	12	38	2	108
b. Non-pulmonary ...	2	2	1	...	3	9	9	7	12	2	4	1	52	26	2	6	...	...	1	3	3	2	5	2	2	...	26

* The cases notified are Acute Primary and Acute Influenzal, but the deaths include all forms of pneumonia.

The incidence of notifiable infectious disease in the towns of Lancashire is shown in the following table which shows how Bolton stands as compared with these towns, in regard to notifiable infectious diseases.

Notification-Rates per 1,000 Population in 1932 in Chief Lancashire Manufacturing Towns

(Figures compiled from the Registrar-General's Quarterly Returns).

	Total Rate	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever	Puerperal Pyrexia	Ophthalmia Neonatorum
Barrow-in-Furness...	1·04	·46	·43	·01	—	·04	·10
Wigan	1·38	·83	·37	·05	·01	·08	·04
Bury	1·63	·74	·54	—	·10	·08	·17
Oldham	2·01	1·43	·35	·01	·05	·08	·09
St. Helens	2·32	1·35	·79	—	·05	·07	·06
Blackburn	2·92	1·87	·76	·07	·03	·10	·09
Burnley	3·09	1·79	·86	·04	·04	·20	·16
Rochdale	3·47	2·08	1·19	·05	·05	·07	·03
Bolton	**3·68**	**3·28**	**·23**	**·00**	**·01**	**·04**	**·12**
Preston	3·96	3·28	·32	·06	·03	·23	·04
Manchester	4·80	2·99	1·38	·06	·13	·10	·14
Salford	5·40	1·86	3·20	·07	·10	·10	·07
Warrington	6·21	5·01	·92	·04	·03	·14	·07
Bootle	6·63	2·95	2·98	·11	·01	·40	·18
Liverpool...	7·17	2·22	3·81	·06	·06	·25	·77

Note—The Total Rate is the total of the above six notifiable diseases. 8

The rates have been calculated on the adjusted population at the middle of 1932.

INFECTIOUS DISEASES NOT NOTIFIABLE.

Influenza.

Influenza caused 46 deaths in Bolton in 1932. The average for the last 10 years is 95.

Bolton's influenza deaths from 1920 to 1932 are shown below :—

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
Deaths	70	45	122	94	88	98	68	147	55	208	42	110	46

Whooping Cough.

11 deaths were due, in Bolton, in 1932 to whooping cough. In 1931, the number was 14.

No really effective treatment for whooping cough has yet been discovered.

The mortality from whooping cough in Bolton and in England and Wales is shown below.

Year.	Bolton.		England & Wales.
	No. of Deaths.	Rate per 1,000	Rate per 1,000
1921	25	·13	·12
1922	13	·07	·16
1923	11	·06	·10
1924	28	·15	·10
1925	32	·17	·15
1926	37	·20	·10
1927	1	·00	·09
1928	9	·04	·07
1929	85	·46	·15
1930	8	·04	·05
1931	14	·07	·06
1932	11	·06	·07

Measles.

9 deaths occurred in 1932 as compared with 24 in 1931.

The table below shows the death-rate for measles for Bolton and for England and Wales since 1921.

Year.	Bolton.		England & Wales.
	No. of Deaths.	Rate per 1,000	Rate per 1,000
1921	5	·02	·05
1922	63	·34	·14
1923	4	·02	·13
1924	12	·06	·12
1925	18	·09	·13
1926	16	·09	·09
1927	21	·11	·09
1928	17	·09	·11
1929	11	·06	·08
1930	4	·02	·10
1931	24	·13	·08
1932	9	·05	·08

Examination of Pathological and Bacteriological Specimens.

These are examined at the Borough Analyst's Laboratory of the County Borough of Bolton. Occasional specimens for which provision is not made in our own laboratory are sent to the Public Health Laboratory, York Place, Manchester.

The examinations made in our own laboratory during 1932 were as follows :—

	Total	Positive	Negative	Doubtful
Sputum (for B. Tuberculosis) ...	722	255	467	—
Diphtheria (Throat Swabs) ...	368	39	328	1
Enteric Fever (Agglutination test)	11	—	11	—

At the Public Health Laboratory, Manchester, the following examinations were made :—

	Total	Positive	Negative
Milk (Inoculation test for B. Tuberculosis)	19	3	16
Diphtheria (Culture of Nose)	1	—	1

Medical officers of our own department examined 194 sputum specimens for B. Tuberculosis and 602 slides for the gonococcus in the course of routine clinical work.

Diphtheria Antitoxin.

Antitoxin can be had day and night by the medical practitioners of the town. During 1932 there were supplied 40 phials, each of 8,000 units.

Insulin.

Since the 16th of September, 1924, the Bolton Public Health Department has supplied insulin free to uninsured patients suffering from diabetes where the income of such patients made it impossible for them to purchase the drug. This has proved a great boon to many sufferers. During 1932, 994 bottles of insulin each containing 100 units, and 18 bottles of 200 units were supplied free, and 588 bottles of 100 units and 139 bottles of 200 units were supplied at a cheap rate.

Disinfection.

There is a fully equipped disinfecting station at School Hill, near the centre of the town. Two motor vans are attached to this station. During 1932 the following work was done by the disinfecting station :

Houses disinfected	857
Articles of clothing, etc., disinfected	6,061
Articles of bedding, etc., destroyed	80

Cleansing of Verminous Persons.

Arrangements have been made for the bathing of such persons at one of the Corporation's bathing establishments. Clothing is disinfected or destroyed at the School Hill Disinfecting Station.

WORK OF THE BOROUGH ISOLATION HOSPITALS.

Scarlet Fever.

As compared with 1930 and 1931, the prevalence of scarlet fever in Bolton showed considerable increase.

429 cases were admitted to the scarlet fever wards of the Borough Hospital for Infectious Diseases. The number in 1929 was 410, in 1930 219, and in 1931, 228.

Amongst the patients admitted to the scarlet fever ward :

399 had scarlet fever only.
15 had scarlet fever and chicken-pox.
1 had scarlet fever and whooping cough.
1 had scarlet fever and measles.
1 had measles only.
1 had chicken-pox and measles.
8 had tonsillitis only.
1 had purpura simplex.
2 showed at the time of admission, and after, no evidence of any disease.

All cases not definitely mild received the scarlet fever antitoxin.

The great majority of the cases were mild, there was only one death and there were no complications which resulted in chronic infirmity.

The complications which occurred were as follows :

24 cases of otorrhœa.
9 cases of albuminuria.
9 cases of adenitis.
3 cases of rheumatism.
3 cases of dacryocystitis.
1 case of mastoid infection.

We had 13 return cases in 1932, as against 2 in 1931. A return case is a case occurring in the home of a discharged patient within four weeks of the return home of such patient.

It is impossible to prevent return cases. In spite of the greatest care in seeing that patients at the time of their discharge are free from infection, in so far as such freedom can be established by clinical examination, these cases occur in connection with every infectious diseases hospital.

Although these cases are called return cases on the assumption that they were infected by the discharged patient, it is quite certain that this is not so in many cases. They are infected in the same way that the first case was infected. Not infrequently a mild "missed" case is the common source of infection.

Period of Stay in Hospital.

The tendency at present throughout the country is to reduce very greatly the period of hospital treatment for scarlet fever. Our practice during the last year has been to discharge simple cases of scarlet fever 4 weeks after the date of outset of the disease.

Diphtheria.

37 cases sent in as diphtheria were admitted to the diphtheria wards. Of these—

4 had diphtheria and scarlet fever.
1 had catarrhal laryngitis.
4 had tonsillitis.
1 had Vincent's angina.
1 was a diphtheria carrier.

Four patients required tracheotomy.

Two of the cases admitted, both tracheotomy cases, died.

Hospital Staff.

There were two cases of infectious disease amongst the nursing staff—both scarlet fever.

One member of the domestic staff developed pulmonary tuberculosis and was admitted to Wilkinson Sanatorium.

I have great pleasure in expressing my appreciation of the untiring devotion and ability with which the Matron, Miss Bateman, discharges the duties of her office.

The work in the Hospital is greatly hampered by the inadequacy of the accommodation for the nursing staff. We are unable to house sufficient staff to use all the wards in the Hospital. A cubicle isolation block is also urgently needed.

Borough Isolation Hospitals.

No. of Patients.	No. of Patients suffering from the following Diseases.						Total.
	Scarlet Fever.	Enteric Fever.	Diphtheria.	Pulmonary Tuberculosis.	Other Tuberculous Diseases.	Other Diseases.	
Remaining, Dec. 31st. 1931	35	...	3	22	...	...	60
Admitted in 1932	416	...	30	31	1	22	500
Total No. treated, 1932 ...	451	...	33	53	1	22	560
Discharged in 1932	402	..	30	24	1	21	478
Died in 1932	1	...	2	7	...	1	11
Remaining, Dec. 31st, 1932	48	...	1	22	...	...	71

VACCINATION.

The following is a summary of the return for 1931 made to the Registrar-General by the Vaccination Officer respecting the vaccination of children whose births were registered in the County Borough of Bolton from 1st January, 1931, to the 31st December, 1931, inclusive.

No. of Births registered 2,208

On the 31st January, 1933, of the above children—

523 or 23·7% were successfully vaccinated,

4 or ·18% were insusceptible of vaccination,

None had had smallpox,

1,523 or 68·9% of their parents made the statutory declaration of conscientious objection,

100 or 4·5% died unvaccinated,

7 or ·31% were temporarily unfit to be vaccinated,

5 or ·22% had removed out of Bolton,

8 or ·36% could not be traced,

and 38 or 1·7% had not been duly vaccinated or otherwise accounted for.

The total number of certificates of successful primary vaccination of children under 14 received during the calendar year, 1932, was 552, and the number of statutory declarations of conscientious objection received during the same period was 1,415.

The number of persons successfully vaccinated and re-vaccinated at the cost of the Bolton rates by the local Public Vaccinators during the year ended 30th September, 1932, was as follows:—

No. of successful primary vaccinations		
Under one year of age	446	
One year and upwards	16	
		462
No. of successful re-vaccinations of persons who had been successfully vaccinated at some previous time...		7
Total vaccinations by Public Vaccinators ...		469

SECTION VII.

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Tuberculosis.

TUBERCULOSIS.

The death-rate from all forms of tuberculosis in Bolton during 1932 was 0·75. This rate is the lowest which has ever been recorded in our town.

The total number of new cases notified in 1932 was 222, as compared with 204 in 1931.

The steady decline in the incidence of tuberculosis is one of the most gratifying features in Public Health work.

The death-rate from tuberculosis of all forms during 1932 in certain Lancashire County Boroughs was as follows:—

Southport	·51	Oldham	·87
Bury	·63	Preston	·93
Blackpool	·74	Burnley	·96
BOLTON	·75	Wigan	·97
Rochdale	·77	Manchester... ...	1·17
Blackburn	·79	Salford	1·3
St Helens	·81	Liverpool	1·32

New Cases.

The number of new cases notified in 1932 was:—

Pulmonary	170
Non-pulmonary	52
Total ...	222

How does Bolton stand as regards deaths from tuberculosis when compared with England and Wales as a whole? This is set forth in the following table.

Annual Death-rate from Tuberculosis (All Forms)

Bolton and England and Wales, 1901-1932.

Year.	Rate per 1000 living. Bolton.	Rate per 1000 living. England and Wales.	Year.	Rate per 1000 living. Bolton.	Rate per 1000 living. England and Wales.
1901	1·94	1·80	1917	1·53	1·60
1902	1·81	1·74	1918	1·57	1·66
1903	1·81	1·74	1919	1·18	1·28
1904	1·79	1·78	1920	1·00	1·13
1905	1·61	1·63	1921	1·08	1·12
1906	1·73	1·65	1922	·97	1·12
1907	1·45	1·61	1923	1·11	1·06
1908	1·75	1·59	1924	1·12	1·05
1909	1·54	1·53	1925	1·02	1·03
1910	1·41	1·43	1926	·92	·96
1911	1·40	1·46	1927	1·02	·97
1912	1·29	1·37	1928	·77	·93
1913	1·15	1·35	1929	·79	·96
1914	1·19	1·36	1930	·82	·89
1915	1·32	1·51	1931	·77	·89
1916	1·43	1·52	1932	·75	·83

It will be seen that Bolton stands this comparison very well. For the past five years the Bolton tuberculosis death-rate has been lower than that for England and Wales.

Age and sex distribution of cases of tuberculosis notified in Bolton in 1932.

Pulmonary Tuberculosis.

Ages.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	Total.
Males	...	1	2	2	6	16	18	23	18	14	4	104
Females ...	...	1	3	4	11	13	12	10	3	7	2	66

Non-pulmonary Tuberculosis.

Ages.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	Total.
Males	2	4	6	6	3	4	3	1	3	...	1	33
Females ...	...	2	3	3	4	4	1	1	1	...	...	19

Deaths from Tuberculosis.

134 Bolton residents were certified as having died of tuberculosis during 1932. This compares with 138 in 1931.

67 of these deaths took place in institutions as follows :—

7 died in the Bolton Borough Hospital.

1 died in the Haslam Nursing Home.

40 died in Townleys Hospital.

6 died in the Bolton Royal Infirmary.

9 died in the Wilkinson Sanatorium.

1 died in the Public Assistance Institution, Oldham.

1 died in the Royal Manchester Children's Hospital.

1 died in the Mental Hospital, Cheadle and Gatley U.D.

1 died in the County Mental Hospital, Winwick.

1 died in the County Mental Hospital, Whittingham.

Six of the deaths were of casuals in Townleys Hospital. Technically they are assigned to Bolton, but they were not in any real sense of the word residents.

The age and sex distribution of those who died of tuberculosis are given in these tables:

PULMONARY TUBERCULOSIS.

Sex.	Total	AGES.								
		Under 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 55	55 to 65	65 and upwards
Males	68	...	...	..	5	21	8	17	15	2
Females...	40	...	1	...	5	24	4	4	2	...
Total	108	...	1	...	10	45	12	21	17	2

NON-PULMONARY TUBERCULOSIS.

Sex.	Total	AGES.								
		Under 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 55	55 to 65	65 and upwards
Males	17	6	2	2	1	3	1	2	...	...
Females...	9	3	1	1	1	2	1	...	...	...
Total	26	9	3	3	2	5	2	2	...	...

In 22 cases the disease had not been notified during life. Most of these cases died in institutions and the diagnosis was made after death.

PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS) REGULATIONS, 1925.

No action was taken under these Regulations.

Public Health Act, 1925, Section 62.

No action was taken under the above Section during 1932.

In Bolton, institutional treatment for tuberculosis is given very promptly to all patients desiring it and who are deemed suitable cases for such treatment. It is rare for a patient to wait more than a week.

233 persons applied for treatment in 1932. 168 of these were cases of pulmonary tuberculosis and 65 of non-pulmonary tuberculosis.

The treatment given was as follows :

Residential treatment	128
Domiciliary treatment	63
Out-patient treatment	38
Declined residential treatment... ...	1
On waiting list at close of 1932 ...	2
Application withdrawn	—
Application cancelled	1

No patient desiring residential treatment was refused such treatment

Tuberculosis Dispensary.

The dispensary is not a place for the general treatment of tuberculosis. Special treatments such as tuberculin treatment are given. Any new treatment for which a specific effect on tuberculosis is claimed is given a trial if the evidence in favour of such treatment appears to justify a trial. Increased use was made of X-ray as an aid to diagnosis (32 cases compared with 16 in 1931). In future years the use of X-ray as an aid to diagnosis will be greatly extended.

The dispensary is open every week-day (except Saturday) from 9 a.m. to 12 noon and on Wednesday from 2 p.m. to 5 p.m. The work done at the dispensary is shown by the following figures :—

Total attendances	1,785
Total number of patients sent for consultation ...	292

The results of these consultations were as follows :

Number found to have pulmonary tuberculosis ...	91
Number found to have non-pulmonary tuberculosis...	36
Number of cases kept under observation for suspected pulmonary tuberculosis	3
Number of cases kept under observation for suspected non-pulmonary tuberculosis.	1
Number in whom no evidence of tuberculosis was found	161
Visits by Tuberculosis Nurse	826
No. of specimens of sputum examined	395

The total number of cases on the register (notified) pulmonary tuberculosis	401
Non ,, ,, ...	254
Total ...	655

Treatment of Tuberculosis.

For suitable cases, institutional treatment is given as follows:

30 beds (and more if needed) at the Wilkinson Sanatorium.

24 beds at the Borough Hospital.

All these beds are for pulmonary cases.

Cases of surgical tuberculosis requiring institutional treatment are sent to the Bolton Royal Infirmary and to the Liverpool Children's Hospital at Heswall in Cheshire, where we have a call on 6 beds.

The Corporation made a grant of £300 during the year to the trustees of the Wilkinson Sanatorium towards the cost of extra equipment.

The following table summarizes the residential treatment given during 1932.

Accommodation Provided by Local Authority with Number of Persons Admitted for Treatment During the Year 1932.

Institution.	Beds	Treated:			Under Treatment 31st Dec. 1932.
		Total	Insured	Un-insu'd	
Wilkinson Sanatorium	30	70	57	13	25
Borough Hospital	24	32	27	5	22
*Heswall	6	6	...	6	3
*Bolton Royal Infirmary	...	13	6	7	...
*Manchester and Salford Hospital for Skin Diseases	...	4	...	4	...
*Shropshire Orthopædic Hospital, Oswestry	...	1	1	...	1
*New Hall Sanatorium, Scarisbrick...	...	1	1	...	1
*East Lancashire T.B. Colony, Chester	...	1	1	...	1
*St. Andrews Hospital, Dollis Hill, London	...	1	1	...	...
*Liverpool Sanatorium. Frodsham ...	...	1	1	...	...

* Paid for per user.

Manchester and Salford Hospital for Skin Diseases

23 patients suffering from tuberculosis of the skin were referred for advice and treatment to the Manchester and Salford Hospital for Skin Diseases.

Four of these patients received in-patient treatment, and the period these cases were in hospital was 269 days.

Ten received sunlight treatment, and 13 received various other treatments. The total number of attendances made by the out-patients was 937.

The four in-patients also received sunlight and various other treatments previous to, and after their period of in-patient treatment.

Most of the patients sent to the Manchester and Salford Skin Hospital got great benefit from the treatment received.

The Bolton Public Health Department pays for the treatment of all patients referred by it to the Manchester and Salford Skin Hospital.

In eleven cases of patients who received out-patient treatment, travelling expenses were defrayed by the Bolton Public Health Department, as the patients' means did not permit of their bearing this cost themselves.

Assistance Given to Necessitous Tuberculous Patients.

1.	Total number of patients assisted	127
2.	Average time receiving assistance ...	$2\frac{3}{4}$ months
3.	Amount of milk given	10,406 pints
4.	Malt and oil given	145 lbs.

Artificial Pneumothorax.

This method of treatment, suitable for a small percentage of cases, was commenced during the year. The results encourage an extended use in the future.

SECTION VIII.

Venereal Diseases.

Venereal Diseases.

During 1932 the venereal diseases clinics were as usual, very busy. The importance of the work done by these clinics is of immense importance to the patients and to the community at large.

These clinics are so conducted as to attract as little as possible the attention of the general public, and to secure for the patients the greatest privacy possible.

The clinics are conducted on the premises of the Public Health Department in Howell Croft, North.

The work of the clinics is very much hindered by the insufficiency of the present premises. It is extremely desirable that there should be entirely separate premises for women. Such provision is really urgently necessary.

The times and place where the clinics are held are announced by public notices in many places in the town.

The times at which the clinics meet are as follows :—

Monday	6-0 p.m.	Males.
Wednesday	6-0 p.m.	Males.
Friday	6-0 p.m.	Males.
Tuesday	9-30 a.m.	Females.
Thursday	6-0 p.m.	Females.
Saturday	10-0 a.m.	Females.

Patients who are unable to attend the evening clinics can receive treatment during the day by arrangement. Every case which calls for the first time at the Public Health Office receives whatever treatment may be necessary the same day. In all towns more difficulty is experienced in securing regular treatment for women than for men. It is gratifying to note that there were over 1,000 more attendances by women in Bolton during 1932 than in 1931. This does not indicate any increase in venereal disease, but is a result of the extended facilities which have been made for the treatment of women.

Irrigation of cases of gonorrhœa is carried out at the following times :—

For Males.

Monday	10 a.m. and 6 p.m.
Tuesday	7 p.m.
Wednesday	10 a.m. and 6 p.m.
Thursday	10 a.m.
Friday	10 a.m. and 6 p.m.

For Females.

Monday	2-30 p.m.
Tuesday	11-0 a.m.
Wednesday	2-30 p.m.
Friday	2-30 p.m.

Statistics of Number of Patients and Number of Attendances at the Venereal Diseases Clinics in 1932.

The number of patients who attended the clinics in 1932 was :—

Men .. 792 Women ... 396

The diseases from which they suffered were :—

	Men	Women	Total
Syphilis	209	151	360
Soft Chancre	—	—	—
Gonorrhœa	439	43	482
Non-venereal	144	202	346
	792	396	1,188

The above figures give the total number of patients who attended the clinics during 1932. The numbers of new patients who came under treatment for the first time in 1932 were as follows :—

	Men	Women
Syphilis...	56	48
Soft Chancre	—	—
Gonorrhœa	191	17
Non-venereal	110	185
	357	250

Attendances.

The total numbers of attendances made by patients at the clinics were

Men ... 10,319 Women ... 3,916

653 specimens of blood were taken for the Wassermann test. These are examined at the Public Health Laboratory, Manchester.

Patients received 1,769 intravenous injections of salvarsan substitutes, and 2,009 intramuscular injections of bismuth.

The following table shows the attendances and treatment received by Bolton patients at Treatment Centres in other towns.

	Treatment Centre				
	Manchester.	Wallasey.	Bury.	Salford.	Rochdale.
No. of cases dealt with for the first time during 1932..	10	1	1	14	1
(a) Syphilis ...	3	1	...	1	1
(b) Gonorrhœa	4	...	1	5	...
(c) Conditions other than Venereal ...	3	...	...	8	...
Attendances of all patients	450	1	18	524	1
Doses of Salvarsan substitutes given	72	...	...	70	...
Tests—					
Wassermann ...	22	...	...	...	...
Gonorrhœa ...	9	...	...	...	...
In-patient days ..	23	...	...	...	...

The tables on pages 100 and 101 show the work carried out at the Bolton Treatment Centre.

7 medical men applied during 1932 for arsenobenzene compounds and 149 doses were supplied to them for use in their private practices.

330 specimens of blood and 17 smears taken by medical practitioners not connected with the Treatment Centre were sent for examination to the Public Health Laboratory, Manchester.

RETURN RELATING TO ALL PERSONS WHO WERE TREATED AT THE TREATMENT CENTRE AT BOLTON PUBLIC HEALTH OFFICES DURING THE YEAR ENDED THE 31ST DECEMBER, 1932.

	Syphilis.		Soft Chancre.		Gonorrhœa.		Conditions other than Venereal		TOTALS.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Tot
1. Number of cases on 1st January under treatment or observation	133	97	...	...	232	22	34	17	399	136	5
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection	13	3	...	..	7	2	...	...	20	5	
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary...	18	3	—	—	—	—	—	—	18	3	
,, secondary	5	10	—	—	—	—	—	—	5	10	
,, latent in first year of infection	1	1	—	—	—	—	—	—	1	1	
,, all later stages	27	28	—	—	—	—	—	—	27	28	
,, congenital	5	6	—	—	—	—	—	—	5	6	
Soft Chancre	—	—	...	...	—	—	—	—	...	...	
Gonorrhœa, 1st year of infection	—	—	—	—	175	16	—	—	175	16	1
,, later...	—	—	—	—	16	1	—	—	16	1	
Conditions other than venereal	—	—	—	—	—	—	110	185	110	185	2
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection	7	3	...	...	9	2	...	...	16	5	
TOTALS OF ITEMS 1, 2, 3, AND 4	209	151	...	...	439	43	144	202	792	396	11
5. Number of cases discharged after completion of treatment and final tests of cure (see Item 15)	9	2	...	...	29	5	97	170	135	177	3
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary...	13	1	—	—	—	—	—	—	13	1	
,, secondary	15	8	—	—	—	—	—	—	15	8	
,, latent in first year of infection	4	...	—	—	—	—	—	—	4	...	
,, all later stages...	3	20	—	—	—	—	—	—	3	20	
,, congenital...	7	4	—	—	—	—	—	—	7	4	
Soft Chancre	—	—	...	...	—	—	—	—	...	...	
Gonorrhœa, 1st year of infection	—	—	—	—	86	3	—	—	86	3	
,, later...	—	—	—	—	27	1	—	—	27	1	
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure (see Item 15)	5	...	...	...	9	...	—	—	14	...	
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners... ...	4	...	...	...	6	1	—	—	10	1	
9. Number of cases remaining under treatment or observation on 31st December	149	116	...	...	282	33	47	32	478	181	6
TOTALS OF ITEMS 5, 6, 7, 8, AND 9	209	151	...	...	439	43	144	202	792	396	11
(These totals should agree with those of Items 1, 2, 3, and 4).											
10. Number of cases in the following stages of syphilis included in Item 6 which failed to complete one course of treatment :—											
Syphilis, primary...	2	1	—	—	—	—	—	—	2	1	
,, secondary	3	2	—	—	—	—	—	—	3	2	
,, latent in 1st year of infection	...	...	—	—	—	—	—	—	...	...	
,, all later stages...	...	11	—	—	—	—	—	—	...	11	
,, congenital	2	1	—	—	—	—	—	—	2	1	

	Syphilis.		Soft Chancre.		Gonorrhœa.		Conditions other than Venereal.		TOTALS.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals
Number of attendances :—											
(a) for individual attention of the medical officers...	2682	2229	...	...	3261	321	758	687	6701	3237	9938
(b) for intermediate treatment, e.g., irrigation, dressing	28	25	...	...	3590	654	...	...	3618	679	4297
TOTAL ATTENDANCES	2710	2254	...	...	6851	975	758	687	10319	3916	14235

In patients — (a) Total number of persons admitted for treatment during the year ... ... (b) Aggregate number of "in-patient days" of treatment given	NIL.

	Under 1 year.		1 & under 5 years.		5 & under 15 years.		15 years and over.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Number of cases of congenital syphilis in Item 3 above classified according to age periods :—	1	...	...	1	2	3	2	2	5	6

	Arsenobenzene Compounds.	Mercury.	Bismuth.
Chief preparations used in treatment of Syphilis :—			
(a) Names of preparations	Novarsenobillon. Stabilarsan. Sulfarsenol.		Bismuthyl. Bismustab.
(b) Total number of injections given (out-patients and in-patients)	1769	...	2009
(c) Number of injections *included in* (b) given to patients who on first attendance at this Centre were suffering from primary and secondary syphilis	251	...	196

Are the tests recommended in Memo. V21 as amended by Memo. V 21A followed in deciding as to the discharge of the patient after treatment and observation for syphilis and gonorrhœa ?	Yes.
If not, in what way are they modified ?	

PATHOLOGICAL WORK :—(a) Number of specimens examined at and by the medical officer of the treatment centre—Microscopical for gonococci, 602.
(b) Number of specimens from patients attending at the centre sent for examination to an approved laboratory—Microscopical for gonococci, 3 ;
Serum tests (Wassermann), 653.

TATEMENT SHOWING THE SERVICES RENDERED AT THE TREATMENT CENTRE DURING THE YEAR, CLASSIFIED ACCORDING TO THE AREAS IN WHICH THE PATIENTS RESIDED.

me of County or County Borough (or Country in he case of persons residing elsewhere than in England and Wales) to be inserted in these eadings.	Bolton	Lancs. C.C.	Bury	Hull	Leeds	London	Manch'ter	Preston	Stoke-on-Trent	Warrington	Wigan	Total.
Number of cases in Items 3 and 4 from each area ound to be suffering from :—												
Syphilis	86	24	2	...	1	1	...	...	...	...	...	114
Soft Chancre	...	...	...	...	...	...	..	...	...	...	...	...
Gonorrhœa	139	74	1	1	...	...	1	2	1	...	...	219
Conditions other than Venereal	246	48	1	...	...	...	...	...	...	...	...	295
TOTAL	471	146	4	1	1	1	1	2	1	...	...	628
Total number of attendances of all patients esiding in each area	9938	3921	273	3	3	1	22	17	1	42	14	14235
Aggregate number of "in-patient days" of atients residing in each area	...	...	...	...	...	...	...	...	...	...	...	...
Number of doses of arsenobenzene compounds iven in the out-patient Clinic and In-patient Department to patients residing in each area ...	1135	595	38	...	...	1	...	...	...	...	...	1769

SECTION IX.

Maternity and Child Welfare.

MATERNITY AND CHILD WELFARE.

Births.

The number of children born to Bolton parents in 1932 was 2,363.

Of these births 2,278 were legitimate and 85 illegitimate.

27 births were not notified as compared with 26 in 1931. Careful inquiry was made in every case, and in none was any intention to deceive found.

The birth-rate for Bolton was 13·2 in 1932, the lowest which has ever been recorded in the County Borough.

The following table gives the birth-rate for the last ten years for England and Wales and for Bolton.

Year.	Birth-rate.	
	England & Wales.	Bolton.
1923	19·7	17·5
1924	18·8	17·6
1925	18·3	16·3
1926	17·8	16·3
1927	16·6	15·1
1928	16·7	14·3
1929	16·3	14·2
1930	16·3	13·8
1931	15·8	13·7
1932	15·3	13·2

The fall in Bolton's birth-rate follows closely the fall in the birth-rate for England and Wales. The causes producing the fall in Bolton are exactly the same as those bringing about the fall in the birth-rate of England and Wales.

Stillbirths.

A stillbirth, by which is meant the dead birth of a child born at any period after the 28th week of pregnancy, must be registered. The number of stillbirths in Bolton in 1932 was 120, giving a stillbirth-rate of 0·67 per 1,000 of the population. The rate for England and Wales was 0·66.

Infantile Mortality.

Bolton's infantile mortality-rate for 1932 was 71.

Of the fifteen large towns of Lancashire only one had, in 1932, a lower infantile mortality than Bolton. I am satisfied that this infantile mortality is definitely correlated with the activities of our maternity and child welfare services.

Of Bolton's 2,363 births in 1932, 2,278 were legitimate and of these the mortality-rate was 68. For the 85 illegitimate children the mortality-rate was 141.

In the following table is given the average infantile mortality for five year periods from 1876 to 1920 and for each year from 1921 to 1932.

Quinquennium.		Average rate.	Year.		Rate.
1876-1880	...	171	1921	...	96
1881-1885	...	169	1922	...	93
1886-1890	...	173	1923	...	85
1891-1895	...	185	1924	...	92
1896-1900	...	173	1925	...	87
1901-1905	...	157	1926	...	101
1906-1910	...	134	1927	...	75
1911-1915	...	128	1928	...	64
1916-1920	...	100	1929	...	103
			1930	...	69
			1931	...	78
			1932	...	71

1928 was an exceptional year, not only for Bolton, but for a great part of the country.

Neo-Natal Mortality.

By neo-natal mortality is meant the mortality of the first four weeks of life.

It is due mainly to causes which have been at work before birth.

The following table gives the neo-natal mortality-rate for Bolton since 1905. It will be seen that it has not varied much in the last twenty-eight years. It is obvious that the causes that give rise to premature birth have not been much influenced for the better during that period.

BOLTON'S NEO-NATAL MORTALITY-RATE PER 1,000 BIRTHS.

Year.	Rate.	Year.	Rate.
1905	46·8	1918	38·9
1906	36·7	1919	40·3
1907	44·6	1920	38·9
1908	37·3	1921	41·2
1909	45·4	1922	43·0
1910	36·7	1923	37·6
1911	43·2	1924	35·5
1912	38·7	1925	32·8
1913	41·7	1926	43·7
1914	45·8	1927	36·2
1915	37·8	1928	25·8
1916	40·1	1929	38·3
1917	49·8	1930	34·6
		1931	34·1
		1932	38·5

The causes of death during the first four weeks of life were as follows:—

Deaths under Four Weeks.

CAUSES OF DEATH.	Under 7 days	7 and under 14 days	14 and under 21 days	21 and under 28 days	Total under 28 days
Icterus Neonatorum	1	—	—	—	1
Convulsions	3	1	—	1	5
Bronchitis	—	—	1	—	1
Pneumonia (all forms)	—	—	2	—	2
Diarrhœa	—	—	—	—	—
Enteritis	—	1	—	1	2
Syphilis	—	—	—	—	—
Suffocation	—	—	—	—	—
Injury at Birth	2	—	—	—	2
Atelectasis	6	—	1	—	7
Congenital Malformations	14	4	3	—	21
Premature Birth	28	3	6	1	38
Congenital Debility	4	2	—	1	7
Other Causes	3	—	1	1	5
Totals	61	11	14	5	91

Maternal Deaths.

Maternal mortality is the number of maternal deaths per 1,000 live births.

Maternal deaths comprise not only deaths directly due to pregnancy and child bearing (including abortion,) but also deaths due to an independent disease concurrent with pregnancy or childbirth in which child bearing contributed to or accelerated death. The number of all these deaths per 1,000 live births is called the total maternal mortality-rate. If only the deaths directly due to pregnancy and child bearing are calculated per 1,000 live births, the puerperal mortality-rate is obtained.

There were 16 deaths directly due to pregnancy or child bearing in Bolton during 1932, giving a puerperal mortality-rate of 6·7. The rate for England and Wales was 4·2.

This high puerperal mortality-rate in Bolton is a matter for considerable concern.

Of the 16 maternal deaths 3 were due to puerperal sepsis (each after an abortion).

In addition to the 16 deaths directly due to pregnancy and child bearing there were three deaths where childbirth was a contributory cause. The deaths in these cases were assigned to (1) Broncho-pnuemonia, (2) Myocarditis, (3) Phthisis.

Full details of all maternal deaths are sent to the Ministry of Health.

The following sentences from the Report of the Departmental Committee of the Ministry of Health on "Maternal Mortality" are of importance. "False hopes would be raised if it were suggested that all maternal deaths are preventable. Changes in social life necessary to raise the standard of health and physical development of the women of the nation can only come with time; great advances in medical knowledge must be made before many of the risks of childbirth can be eliminated: even then the factor of human fallibility will remain. Nevertheless we are confirmed in the opinion that at least half of the deaths which have come under review could have been prevented had due forethought been exercised by the expectant mother and her attendant."

During the year provision has been made for dental treatment for expectant mothers who are unable to obtain it otherwise. The work is proving useful. It appears necessary, however, in certain circumstances to extend the scope of the work to the provision of dentures. As far as our general work for the protection of motherhood is concerned, persistent sustained conscientious effort will doubtless result ultimately in improvement.

The puerperal mortality-rates for England and Wales and for Bolton for the past ten years are as follows:—

Year.	Puerperal Mortality.	
	England & Wales.	Bolton.
1923	3·8	4·0
1924	3·9	7·8
1925	4·0	4·7
1926	4·1	3·4
1927	4·1	4·4
1928	4·4	3·0
1929	4·3	8·5
1930	4·4	6·7
1931	4·1	8·1
1932	4·2	6·7

The Health Visitors' Work.

No work in connection with a Health Department is more important than that of Health Visitors. Their daily contact with the homes gives them exceptional opportunities for spreading health truths and exercising generally an influence for good.

The Bolton Health Visitors have carried out their duties with zeal, tact and energy. They have shown a real interest in their work which cannot fail to produce good results.

Visits by Health Visitors.

Primary birth enquiries	2,410
Visits to children, 1—5 years	2,855
Primary visits to expectant mothers	247
Revisits to infants under 1 year	5,188
Revisits to expectant mothers	191
Visits to puerperal fever cases	13
Visits to ophthalmia cases	205
Death enquiries made	160
Visits to midwives' houses	148
Visits—Children Act	149
Total visits	11,566

As a result of their visits the Health Visitors reported 26 nuisances to the Medical Officer of Health, and referred 3 cases to the N.S.P.C.C.

They distributed at the houses visited 2,800 leaflets.

They reported that of the mothers visited 55 returned to work within three months of their confinement.

Assistance given to Expectant and Nursing Mothers and Children under 5 years of age.

103,282 quarts of new milk were given to 1,514 persons.

3,890 lbs. of dried milk were given for the use of 205 infants.

1,347 lbs. of malt and oil were given to 356 children.

All cases receiving assistance are kept under observation and, unless under treatment by a doctor, attend the infant clinics or the ante-natal centres.

There was one application for home help which was granted.

Infant Clinics and School for Mothers.

The Bolton School for Mothers and the Public Health Authority continue to work in the partnership started in 1916. The School was the Bolton pioneer in organising educational work amongst mothers, and commenced its activities in 1908. In 1916 an obligation was placed on the

Local Authority to participate in the work. The Bolton Health Authority was fortunate in being able to co-operate with the School and a partnership commenced which has been of inestimable value to the mothers and children of Bolton. The devoted work of voluntary helpers continues to command the confidence and support of the public.

The eight centres and time at which meetings take place at them are as follows:

Name and Address of Centre.	Day and Time of Meeting.	
The Friends' School Room, Tipping Street ...	Monday	3 p.m.
Chalfont Street Methodist School	Monday	3 p.m.
Halliwell Road Free Church	Tuesday	3 p.m.
Victoria Wesleyan School, Grecian Crescent ...	Tuesday	3 p.m.
Girls' Club, Kensington Street	Wednesday	3 p.m.
St. Chad's School, Belvoir Street	Wednesday	3 p.m.
The Saviour's Church House, Deane Road... ...	Thursday	3 p.m.
Sunning Hill Council School, Derby Street... ...	Thursday	3 p.m.

STATISTICS FOR THE YEAR ENDED 31ST DECEMBER, 1932. INFANT CLINICS.

Clinic.	Average attendance per session	Number who attended for the first time — Children: Under 1 yr. of age	Number who attended for the first time — Children: Between the ages of 1 and 5 yrs	Number of Children on the Roll	Total attendances by Children: Under 1 yr. of age	Total attendances by Children: Between the ages of 1 and 5 yrs	Total number of Children who were in attendance at the end of the year: Under 1 yr. of age	Total number of Children who were in attendance at the end of the year: Between the ages of 1 and 5 yrs	Number of meetings during the year
1. Tipping Street ...	46·2	123	34	322	1171	864	68	75	44
2. Sunning Hill... ...	53·0	154	33	323	1707	682	70	63	45
3. Halliwell	68·1	195	32	463	2029	1039	85	78	45
4. Grecian Crescent ...	52·0	129	28	316	1593	832	73	66	46
5. Kensington	50.0	181	43	446	1517	827	70	66	46
6. Saviour's	57·0	118	20	314	1526	1098	73	75	46
7. Chalfont Street ..	43·9	116	24	308	1285	648	65	64	44
8. St. Chad's	59·2	156	19	351	1606	1121	80	50	46
	429.4	1172	233	2843	12434	7111	584	537	362
		1405			19545				

The total number of new members enrolled at the centres in 1932 was 1,405. The number for 1931 was 1,327. This is an increase of 78 over 1931.

The age distribution of the children enrolled at the various centres was as follows:

Under one month	327
,, two months	410
,, three months	187
,, six months	145
,, twelve months	103
Twelve months and over	233

The total number of children under the age of 12 months enrolled in 1932 was 1,172. This shows an increase of 95 as compared with 1931. The number of children under 12 months of age enrolled in 1932 was over 40 per cent. of the children born in Bolton during the same year. The importance to the social life of Bolton of the service provided by these clinics is evident.

Ante-natal Work.

Ante-natal clinics are conducted by the Public Health Authority at the School for Mothers and the Haslam Maternity Home. An ante-natal clinic is also held at Townleys Hospital. The clinics at the Haslam Maternity Home and at Townleys Hospital are for prospective mothers who are to be admitted to those institutions.

The number of attendances during the year at the various clinics was:—

School for Mothers (two clinics weekly)	1175
Haslam Maternity Home (three clinics weekly) ...	2150
Townleys Hospital (1 clinic weekly)	1098
(Bolton Residents only)	
	4423

The number of expectant mothers who attended during the year was:—

School for Mothers ...	348
Haslam Maternity Home ...	326
Townleys Hospital ...	364
	1038

Including the work done at Townleys Hospital, the total number of expectant mothers who attended the clinics was 42·4% of the total births (live and still) notified during the year.

Ante-natal work has now established itself as a most important branch of midwifery. There is no question as to the value of careful medical examination of an expectant mother in order to prevent possible dangers and illnesses of childbearing.

Massage.

This clinic is conducted by the kind permission of the Bolton Education Authority in quite suitable rooms at Flash Street Special School.

The clinic was held as follows:

Monday, Wednesday, Thursday and Friday, 10 a.m. to noon, and 2 p.m. to 5 p.m.

The number of cases treated in 1932 was 112, and these received a total of 2,343 treatments.

Most of the cases benefitted very much by the treatment.

The treatment is given by Miss M. L. Bruckshaw, C.S.M.M.G., who is a part-time employee of the Public Health Department.

Artificial Sunlight Clinic.

This clinic, of which the Medical Officer is Dr. Mary Boullen, and the operator, Miss Charnock, C.S.M.M.G., meets three times a week at the premises of the School for Mothers in St. George's Road.

The total number of patients treated at the clinic in 1932 was 73 compared with 68 in 1931. These patients received 1,387 treatments.

I give below Dr. Mary Boullen's report on the clinic for 1932.

"In 1932 the same method of treatment was adopted as in 1931, as to the time of exposure and the increasing dosage. The majority of infants began with three minutes, the time being gradually increased to thirty minutes.

The number of new cases treated during the year was 62. The total number of cases treated includes those who had not finished their course of treatment in 1931.

A fairly satisfactory number of cases completed the course of treatment, thus rendering it possible to make a final examination of the children before discharging them and to make a satisfactory report on their condition at the end of treatment.

Twenty-three cases of rickets were treated in 1932, and of these nine continued to attend until they were discharged. The great majority of these cases had cod liver oil and malt in addition to the sunlight treatment and most of the cases showed marked improvement.

There was a much more satisfactory gain in weight than amongst the cases of rickets treated in 1931.

It was again found that many of the mothers could not spare the time to attend the Artficial Sunlight Clinics and the Massage Clinic concurrently. These cases, after completing the course, were transferred for a course of massage.

The cases of primary malnutrition and debility attended fairly regularly and showed good results.

Of the seven regular attenders six showed very definite improvement, only one making no gain in weight or improvement in general condition.

The cases of debility following the various diseases of infancy did not respond so well to treatment as in 1931.

A case of cervical adenitis improved considerably—the enlargement completely disappeared and the patient gained in weight.

Three cases of anæmia were treated and two of these did exceedingly well, the third one even showing slight improvement.

The results of the clinics compared fairly closely with those of previous years, although the cases of debility following measles, whooping cough and broncho-pneumonia were rather disappointing. These cases had before given very good results.

It is still difficult for mothers of large families to bring their children for treatment, and it is often these very children who are most in need of it."

HASLAM MATERNITY HOME.

The Maternity Home continues to serve its useful function in the town. It is available for all Bolton mothers. The fees charged vary according to the patients ability to pay. Deliveries may be conducted either by the midwives of the Home, with medical attendance from a rota of practitioners when necessary; or patients may make their own arrangements with their doctor to attend them. As in previous years most of the deliveries were conducted by the staff of midwives in the Home.

Thanks are again due to the Matron, Miss Evans for the untiring skill and energy which she so freely gives.

As in past years Dr. Mary Boullen has devoted some of her time to the general supervision of the Home.

I append full particulars of all cases admitted to the Home in 1932.

Statistics 1932.

1. No. of beds in the Home 18
2. No. of cases admitted 349
3. Average duration of stay in days ... ... 13·9
4. No. of cases delivered by—
   (*a*) Midwives 294
   (*b*) Doctors 47
5. No. of cases in which medical assistance was sought by the midwife... 89
   (*a*) Ante-natal 41
   (*b*) During labour 27
   (*c*) After labour 7
   (*d*) For Infant 14
6. No. of cases notified as—
   (*a*) Puerperal fever ... ... Nil
   (*b*)*Puerperal pyrexia 2
   *i.e. rise of temperature to 100·4°F for 24 hours, or its recurrence within that period.
7. No. of cases of pemphigus neonatorum ... ... Nil
8. No. of infants not entirely breast fed whilst in the Home ... 5
9. No. of cases notified as ophthalmia neonatorum, with result of treatment in each case 3
   (Satisfactory— Eyes normal)
10. No. of maternal deaths, with causes ... ... Nil
11. No. of fœtal deaths (stillborn or within 10 days of birth) and their causes, and the results of the post-mortem examinations, if obtainable 20
   (*a*) Stillborn 11
      Macerated 2
      Difficult delivery 3
      Atelectasis 1
      Monstrosity 1
      Anencephalic 1
      Maternal eclampsia 1
      Placenta praevia 1
      Premature 1
   (*b*) Deaths within 10 days of birth 9
      Spina Bifida 4
      Weakly premature (mother albuminuria) 2
      Small feeble baby 1
      Atelectasis 1
      Melæna 1

Note.—No post-mortems were made.

MATERNITY WARDS AT TOWNLEYS HOSPITAL.

Townleys Hospital which was transferred to the Bolton Corporation under the Local Government Act of 1929, has a modern and efficient maternity unit of 28 beds. In addition to Bolton cases the hospital admits from adjacent townships which were in the old Bolton Union area. During 1932, 650 women were confined in the hospital. The major proportion of these were Bolton residents.

Bolton Day Nursery.

The work of the Bolton Day Nursery was continued during the year. The Day Nursery has a specially important place in the life of an industrial town where economic necessity compels mothers to go out to work. Children may be left daily from 7 a.m. to 5-30 p.m. at a charge of 9d. per day. The new premises are very excellent. The attendances have increased considerably during the year. The Nursery was closed for a part of December on account of the prevalence of Measles.

Below are set forth full particulars of the attendances at the Day Nursery during 1932.

STATISTICS FOR THE YEAR ENDED 31ST DECEMBER, 1932.

A.	NUMBER OF PLACES FOR CHILDREN UNDER 5 YEARS OF AGE (i.e. the total number of children that can be accommodated at any one time)	During the winter ...	27
		During the summer ...	36

B. TOTAL NUMBER OF ATTENDANCES OF CHILDREN:

Whole day under 3 years	4,203
Whole day 3 years and over	1,637
Total whole day	5,840
Half day under 3 years	379
Half day 3 years and over	113
Total half day	492

Number of attendances of children under 5 years:

Whole day...	5,840
Half day	492
Average for the year—whole day ...	23·8
half day	10·8
Number of days open during year .. whole day...	245
Number of days open during year .. half day ...	45
Actual number of children who have attended	110
Average number of attendances per child	57·5

CONTROL OF MIDWIVES.

During 1932 the number of midwives who notified their intention to practise in Bolton was 75. Of them, nine were resident members of the staff of the Haslam Maternity Home.

The following table gives details of the Midwives' work :—

	Trained.	Untrained.	Total.
No. of midwives	73	2	75
No. of cases attended	1,676	12	1,688
Average No. of cases per midwife	23	6	22
No. of calls for medical aid ...	415	2	417
Per cent. of cases in which medical aid was sought...	24%	12%	24%
No. on the Register at the beginning of the year... ...			71
No. who ceased to practise in Bolton			4
No. who notified their intention to practise in Bolton for the first time			4
No. on the Register at the end of the year			70
Names voluntarily removed from the Roll			1

In addition to the above, the midwives attended 263 cases as maternity nurses.

The following 507 notifications were received from midwives in accordance with the regulations of the Central Midwives Board :—

Medical assistance 417

Conditions for which Doctors were Summoned in an Emergency by Midwives.

Pregnancy		75
Abnormalities	26	
Albuminuria	12	
Ante-partum hæmorrhage	12	
Abortion or threatened abortion	7	
Heart disease	5	
Stunted growth	5	
Other conditions	8	
Labour		231
Delayed, complicated or obstructed labour	71	
Ruptured perineum	69	
Malpresentation	22	
Uterine inertia	21	
Contracted pelvis	7	
Retained placenta	7	
Premature labour	7	
Other conditions	27	

PUERPERIUM		30
Post-partum hæmorrhage	9	
Rise of temperature	8	
Other conditions	13	
INFANTS		81
Feebleness	23	
Inflammation of eyes	17	
Malformations	17	
Premature	10	
Convulsions	4	
Other conditions	10	
		417

Notifications received from midwives regarding matters other than the summoning of medical aid :

Stillbirths	72
Artificial feeding	18
Death of mother or child	—
Laying out of dead body	—
Liability to be a source of infection	—

1,688 cases out of a total of 2,363 births registered were attended by midwives.

The Local Authority neither employs nor subsidises any practising midwives.

During the year under review the Public Health Committee decided to make a payment to a midwife for any case which was sent in to hospital as a result of reference to a medical practitioner for an abnormal condition It was felt that the midwife should receive some recompense for the fee she had lost.

The difficult position of the midwife is sometimes not sufficiently remembered. The falling Birth-rate and the increased hospital provision for maternity has made our supply of practising midwives excessive. The last ten years have brought about changes. In 1922 the 88 midwives in Bolton attended an average of 33 cases each. In the year under review 75 midwives attended an average of only 22 cases each. It is obvious that it has become impossible for midwives to make a reasonable living.

Lectures to Midwives.

During the Winter Season a course of four lectures was delivered to the midwives of Bolton and District. The lectures were very well attended and were much appreciated.

The lectures and the subjects were as follows:—

"Diagnosis of delayed or obstructed labour" by

Dr. K. Vernon Bailey, Pathologist and Assistant Surgical Officer to St. Mary's Hospital, Manchester.

"Ante-natal care" by

Dr. J. Scott, Honorary Gynecological Surgeon to Bolton Royal Infirmary.

"The new ante-natal record forms" by

Dr. Mary E. Boullen, Assistant Medical Officer of Health and Maternity and Child Welfare Officer.

"The conduct of difficult labour" (with cinematograph illustrations) by Dr. J. W. A. Hunter, Assistant Gynecological Surgeon to Manchester Northern Hospital.

Children Act, 1908, and Children and Young Persons Act, 1932.

The law relating to children kept for reward by anyone other than relatives was modified during the year. Under the Children Act, 1908, the local authority had to be notified of all children under seven kept for reward. The Children and Young Persons Act, 1932, increased this age to nine and made other alterations in the provisions relating to them. The Act became operative on January 1st, 1933.

All our Health Visitors are appointed Infant Protection Visitors. Their dual duties completely harmonise.

There were fourteen children on the register at the end of the year. All these cases are visited frequently by the Health Visitors in order to satisfy themselves that the children are being properly cared for.

SECTION X.

Miscellaneous.

Queen's Park Observatory, Bolton.

Meteorological Summary, 1932.

The yearly average barometer reading, 29·972", was ·035" in excess of normal. A period of exceptionally high pressure, the highest monthly mean ever recorded (30·550"), occurred in February. The highest daily reading was 31·020" on January 26th, and the lowest 28·884" on January 6th.

The mean temperature for the year, 48·15°, was only ·96° above the average despite the fact that the mean temperature for August was 3·5° and that for December 2·5° above the averages of the past forty-six years. The highest shade temperature was 83·0° on August 11th and the lowest 23·3° on March 12th. Sun temperatures (Black Bulb) were down 6·7° due to the supernormal amount of cloud (7·8 against 7·4). Earth temperatures averaged about ·5° higher than usual.

Sunshine was recorded on 252 days. The total duration was 920·6 hours compared with the average of 987·3 hours.

The total rainfall was 1·3" below normal. Rain fell on 199 days—15 fewer than the average. The total duration was 821·2 hours.

Westerly winds predominated as usual (3,351 hours). There was a remarkable absence of high winds, the average daily distance of 112 miles being the lowest ever recorded. The maximum velocity was 28 miles per hour on January 12th. There were eight thunderstorms of a mild type.

THOS. MIDGLEY, F.R.Met.S.

Meteorological Summary, 1932.

1932	Barometer	Mean Relative Humidity	Mean of Maximum and Minimum Temperature	Absolute extremes of Temperature				Sunshine			Total Rainfall
				Highest	Date	Lowest	Date	Total Amount	Maximum in one day	Date	
								hours	hours		
January	30·108″	88·2%	42·71°	55·4°	3 & 18	26·0°	1	17·2	3·9	15	5·143″
February	30·550	82·2	38·44	50·7	22	25·2	19	39·3	7·9	28	·083
March	29·949	79·3	40·08	52·5	23	23·3	12	68·9	7·9	1	2·752
April	29·725	75·1	44·62	60·4	30	30·1	3	92·5	10·0	12	3·595
May	29·870	78·8	49·06	66·4	14	32·4	9	80·6	10·9	10	4·714
June	30·093	69·5	56·77	75·4	17	39·4	5	184·9	14·3	15	·713
July	29·837	77·7	58·59	80·0	10	46·4	19	86·5	9·2	25	4·430
August	30 012	76·8	61·48	83·0	11	45·9	23	135·8	10·9	24	1·843
September	29·810	81·0	54·32	75·2	16	33·9	28	111·0	7·7	21	5·272
October	29·658	87·2	46·03	63·7	1	30·2	29	57·2	7·0	28	8·506
November	30·026	88·7	43·49	58·3	2	31·4	6	21·0	4·3	5	4·279
December	30·029	88·3	42·25	54·0	17	30·0	26	25·7	5·4	4	2·245
Total	359·667	972·8	5778·4					920·6			43·289
Average	29·972	81·1	48·15					76·7			3·607

Rainfall. Average 1887—1932 = 44·513″

Baths and Wash-houses. 12 months ended 31st March, 1933.

	Mixed Bathing	Swimming Baths			Slipper Baths				Vapour and Needle Baths	Contracts	Total Bathers	Corresponding period last year	No. using Wash-houses	Corresponding period last year
	6d.	4d.	3d.	2d.	8d	6d.	4d.	2d.	9d.					
Moss St. Baths & Wash-houses..	9202	29195	3938	40256	1756	5536	3515	...	...	63840	157238	142712	23097	23536
Bridgman St. Baths ...	11611	24443	1813	31548	3426	1906	1357	...	240	46414	122758	99808	...	..
High St. Baths	6875	12253	737	21399	946	3333	1638	...	119	39324	86624	83010	...	...
*Rothwell Street Baths and Wash-houses	...	...	...	...	...	930	523	5854	...	...	7307	9241	44900	39340
Total ...	27688	65891	6488	93203	6128	11705	7033	5854	359	149578	373927	334771	67997	62876

* Opened 11th February, 1931.

Turkish Baths. 12 months ended 31st March, 1933.

	Turkish Baths		Slipper Baths		Massage	Medicated Baths	Total Bathers	Corresponding period last year
	1st Class	2nd Class	1st Class	2nd Class				
Turkish Baths	2252	1950	248	316	210	57	5033	4929

Corporation Horses.

Report on the Inspection and Treatment of Horses belonging to the Corporation.

The following statement shows the total number of Corporation horses on the 31st December, 1932, the Committees to which they belong, and the total visits of inspection for the purpose of treatment of horses for various ailments during the year.

Committee	Number of Horses	Visits of Inspection during 1932
Cleansing and Sewage	44	109
Streets	1	3
Gas	2	6
Parks	1	2
Cemetery	2	15
Waterworks	2	4
Education	2	9
Total	54	148

During the year four horses were submitted for veterinary examination prior to consideration of purchase by the Cleansing and Sewage Committee.

In addition to the above horses, 20 dairy cattle belonging to the Education Committee at the Lostock Open Air School have received veterinary attendance and medicine during the year.

SECTION XI.

Extracts from Census.

The Census statistics are in respect of the living population enumerated as at midnight, 26th/27th April, 1931.

TABLE 1—HOUSING OF PRIVATE FAMILIES, 1931. LANCASTER ADMINISTRATIVE COUNTY (WITH ASSOCIATED COUNTY BOROUGHS).

Administrative Area.	Increase or Decrease (—) in Occupied Dwellings 1921—1931.		Increase or Decrease (—) in Private Families 1921—1931.		Vacant Unfurnished Dwellings, 1931.		Average Size of Occupied Dwelling (Rooms).		Average Family Occupation (Rooms).		Families per Occupied Dwelling.		Average Size of Private Family (Persons).		Average Persons per Room.		More than 2 per room Density. Private Families. 1931.		Population. 1931.		Population. 1921.	
	No.	%	No.	%	No.	%	1931.	1921.	1931.	1921.	1931.	1921.	1931.	1921.	1931.	1921.	No.	%	No.	%	No.	%
LANCASTER. Administrative County.	147,561	14·13	162,269	14·64	14,915	1·23	4·68	4·70	4·39	4·43	1·07	1·06	3·78	4·27	0·86	0·96	48,613	3·83	328,222	6·82	410,342	8·67
Barrow in Furness C.B.	34	0·23	—254	—1·53	591	3·95	4·83	4·80	4·36	4·25	1·11	1·13	3·89	4·35	0·89	1·02	712	4·35	4,421	6·95	7,982	11·04
Blackburn C.B.... ...	1,748	5·65	2,207	6·98	359	1·08	4·41	4·43	4·26	4·33	1·03	1·02	3·48	3·91	0·82	0·90	603	1·78	3,927	3·33	4,784	3·87
Blackpool C.B.	9,522	66·21	9,692	62·50	660	2·63	5·29	5·79	5·02	5·37	1·05	1·08	3·38	4·20	0·67	0·78	378	1·50	2,112	2·48	3,289	5·05
Bolton C.B.	**4,787**	**11·44**	**5,071**	**11·89**	**586**	**1·24**	**4·37**	**4·26**	**4·27**	**4·18**	**1·02**	**1·02**	**3·61**	**4·13**	**0·85**	**0·99**	**1,208**	**2·53**	**8,567**	**4·97**	**15,831**	**8·98**
Bootle C.B.	1,536	11·53	1,816	11·60	127	0·85	5·29	5·38	4·50	4·58	1·18	1·17	4·28	4·80	0·95	1·05	1,082	6·19	7,128	9·53	8,692	11·62
Burnley C.B.	1,340	5·30	1,660	6·51	325	1·20	4·21	4·23	4·13	4·19	1·02	1·01	3·50	3·96	0·85	0·94	595	2·19	3,989	4·19	5,698	5·64
Bury C.B.	1,261	9·08	1,233	8·70	205	1·33	4·19	4·36	4·13	4·27	1·02	1·02	3·47	3·86	0·84	0·90	366	2·38	2,455	4·60	2,578	4·72
Liverpool (City of) C.B.	25,669	17·31	29,397	17·09	2,110	1·19	5·06	5·10	4·37	4·40	1·16	1·16	4·06	4·46	0·93	1·02	13,714	6·81	89,336	10·94	92,871	12·13
Manchester (City of) C.B.	21,168	13·55	25,719	15·57	1,868	1·04	4·71	4·74	4·38	4·48	1·08	1·06	3·81	4·31	0·87	0·96	7,168	3·75	48,832	6·72	55,727	7·88
Oldham C.B.	1,861	5·44	2,008	5·78	351	0·96	4·21	4·16	4·13	4·10	1·02	1·02	3·66	4·09	0·89	0·99	1,207	3·28	8,316	6·18	11,208	7·89
Preston C.B.	3,272	12·21	3,348	12·19	347	1·13	4·47	4·44	4·36	4·33	1·02	1·02	3·72	4·18	0·85	0·96	696	2·26	5,128	4·47	8,495	7·40
Rochdale C.B.	2,088	8·93	2,318	9·86	320	1·23	4·06	4·00	4·01	3·98	1·01	1·01	3·39	3·79	0·85	0·95	691	2·67	4,581	5·22	7,185	8·06
St. Helens C.B.... ...	2,994	16·30	3,272	16·62	163	0·76	4·27	4·28	3·98	4·00	1·07	1·07	4·49	5·09	1·13	1·27	2,366	10·30	16,927	16·43	21,019	20·98
Salford (City of) C.B. ...	1,443	2·99	3,324	6·45	410	0·81	4·61	4·60	4·18	4·31	1·10	1·07	3·93	4·43	0·94	1·03	3,163	5·76	20,652	9·58	24,437	10·69
Southport C.B.... ...	3,558	23·36	4,054	24·03	589	2·99	5·67	5·92	5·09	5·35	1·11	1·11	3·46	4·05	0·68	0·76	294	1·41	1,718	2·37	?	?
Warrington C.B. ...	2,535	17·12	2,990	19·31	79	0·45	4·49	4·58	4·21	4·38	1·07	1·05	4·11	4·83	0·98	1·10	987	5·34	7,130	9·39	9,051	12·09
Wigan C.B.	1,119	6·41	—178	—0·87	134	0·71	4·45	4·37	4·10	3·75	1·09	1·17	4·10	4·31	1·00	1·15	1,433	7·10	9,486	11·47	13,488	15·35

TABLE 2—LOCAL AGE AND CONDITION DISTRIBUTIONS.

Area.	Average age.		Age distribution per 1,000 of each sex (Ages last Birthday).								Marital condition distribution per 1,000 of each sex.						Number of Married Women aged less than 45 per 1,000 females of all ages.	Number of Females per 1,000 Males.
			Males.				Females.				Males.			Females.				
	Males.	Females.	0-4	5-19	20-39	40-	0-4	5-19	20-39	40-	Single.	Married.	Widowed and Divorced.	Single.	Married.	Widowed and Divorced.		
Bolton	32·3	34·1	70	247	331	352	61	221	335	383	487	471	42	480	422	88	240	1,136

TABLE 3—POPULATION 1911-1931 AND INTERCENSAL VARIATIONS.

Administrative Area.	Population. 1911. Persons.	1921. Persons.	1921. Males.	1921. Females.	1931. Persons.	1931. Males.	1931. Females.	Increase or Decrease (—). 1911-1921. Per cent.	1921-1931. Amount.	Per cent. Total.	Per cent. By Births and Deaths.	Per cent. By Migration.	Net 1921 Population of Areas Added or Deducted (—) in Intercensal Period 1921-31.
Cols. a	b	c	d	e	f	g	h	i	j	k	l	m	n
*LANCASTER: ADMINISTRATIVE COUNTY (with associated County Boroughs).	4,761,534	4,932,951	2,335,566	2,597,385	5,039,455	2,383,723	2,655,732	3·6	106,504	2·2	4·7	— 2·5	5,467
County Boroughs ...	3,064,226	3,189,127	1,507,271	1,681,856	3,244,382	1,530,615	1,713,767	4·1	55,255	1·7	5·4	— 3·7	—
Barrow in Furness...	63,770	74,244	37,950	36,294	66,202	34,034	32,168	16·4	— 8,042	— 10·8	5·4	— 16·2	—
*Blackburn	133,269	126,922	57,786	69,136	122,697	56,238	66,459	— 4·8	— 4,225	— 3·3	0·8	— 4·1	279
Blackpool	60,746	99,639	42,109	57,530	101,553	43,870	57,683	64·0	1,914	1·9	— 1·3	3·2	—
Bolton	180,851	178,683	83,680	95,003	177,250	82,997	94,253	— 1·2	— 1,433	— 0.8	2·5	— 3·3	—
Bootle	69,876	76,487	37,405	39,082	76,770	36,838	39,932	9·5	283	0·4	10·6	— 10·2	—
*Burnley	106,773	103,186	48,126	55,060	98,258	45,978	52,280	— 3·4	— 4,928	— 4·8	1·6	— 6·4	92
Bury	59,040	56,403	26,162	30,241	56,182	26,150	30,032	— 4·5	— 221	— 0·4	— 0·2	— 0·2	—
*Liverpool, City of ...	755,758	805,046	384,382	420,664	855,688	405,458	450,230	6·5	50,642	6·3	9·7	— 3·4	2,106
*Manchester, City of..	719,275	735,774	347,427	388,347	766,378	360 976	405,402	2·3	30,604	4·2	4·9	— 0·7	5,467
Oldham	147,483	144,983	68,282	76,701	140,314	66,141	74,173	— 1·7	4,669	— 3·2	0·5	— 3·7	—
Preston	117,088	117,406	53,993	63,413	119,001	55,214	63,787	0·3	1,595	1·4	4·1	— 2·7	—
Rochdale	91,428	90,816	42,238	48,578	90,263	42,129	48,134	— 0·7	— 553	— 0·6	0·3	— 0·9	—
St. Helens	96,551	102,640	52,628	50,012	106,789	54,546	52,243	6·3	4,149	4·0	11·2	— 7·2	—
Salford, City of ...	231,357	234,045	111,693	122,352	223,438	106,312	117,126	1·2	— 10,607	— 4·5	5·1	— 9·6	—
Southport	69,643	76,621	31,755	44,866	78,925	32,975	45,950	10·0	2,304	3·0	— 0·9	3·9	—
Warrington	72,166	76,811	38,094	38,717	79,317	39,446	39,871	6·4	2,506	3·3	8·8	— 5·5	—
Wigan...	89,152	89,421	43,561	45,860	85,357	41,313	44,044	0·3	— 4,064	— 4·5	6·4	— 10·9	—

NOTES.—(1) Columns (a)—(m) all refer to the districts as constituted in 1931. Column (n) shows the net 1921 population of the areas (if any) transferred to or from (—) the district in the intercensal period 1921-31.

(2) Areas marked * have been created or altered during the 1921—1931 intercensal period.

TABLE 4—ACREAGE, POPULATION, PRIVATE FAMILIES AND DWELLINGS, DISTRIBUTED IN WARDS.

DEFINITIONS.

PRIVATE FAMILY.—Any person or group of persons included in a separate return as being in separate occupation of any premises or part of premises is treated as a separate family for Census purposes, lodgers being so treated only when returned as boarding separately and not otherwise. Private families comprise all such families with the exception of those enumerated in (i) Institutions or (ii) business establishments or boarding-houses in which the number of resident trade assistants or resident boarders exceeds the number of members of the employer's or householder's family (including private domestic servants).

STRUCTURALLY SEPARATE DWELLINGS.—A structurally separate dwelling has been defined for the Census as any room or set of rooms, intended or used for habitation, having separate access either to the street or to a common landing or staircase. Thus each flat in a block of flats is a separate unit ; a private house which has not been structurally subdivided is similarly a single unit whether occupied by one family or by several families. But where a private house has been subdivided into maisonnettes or portions, each having its front door opening on to the street or on to a common landing or staircase to which visitors have access, then each such portion is treated as a separate unit.

ROOMS.—For the purpose of the Census the rooms enumerated are the usual living rooms, including bedrooms and kitchens but excluding scullcries, landings, lobbies, closets, bathrooms, or any warehouse office, or shop rooms.

ADMINISTRATIVE AREA.	Acreage (Land and Inland Water).	TOTAL POPULATION.					PRIVATE FAMILIES AND DWELLINGS, 1931. (*See definitions at beginning of table*)				
		1921.	1931.								
		Persons.	Persons.	Males.	Females.	Persons per Acre.	Private Families.	Population in Private Families.	Structurally Separate Dwellings occupied.	Rooms occupied.	Persons per Room.
Bolton.	**15,280**	**178,683**	**177,250**	**82,997**	**94,253**	**11.6**	**47,706**	**172,366**	**46,615**	**203,699**	**0.85**
Wards :											
ASTLEY BRIDGE ...	1,776	8,592	8,525	3,924	4,601	4.8	2,419	8,317	2,390	10,582	0.79
BRADFORD	282	18,244	15,711	7,344	8,367	55.7	4,146	15,337	4,036	15,916	0.96
CHURCH	391	8,029	7,226	3,240	3,986	18.5	1,992	6,887	1,902	9,274	0.74
DARCY LEVER-CUM-BREIGHTMET	1,374	4,073	5,297	2,525	2,772	3.9	1,488	5,267	1,472	6,229	0.85
DEANE-CUM-LOSTOCK	2,604	4,612	5,873	2,766	3,107	2.3	1,488	5,564	1,477	6,924	0.80
DERBY	312	18,440	16,618	7,777	8,841	53.3	4,354	16,054	4,224	17,717	0.91
EAST	158	8,906	8,080	4,092	3,988	51.1	1,850	7,346	1,756	7,055	1.04
EXCHANGE	109	3,454	2,629	1,294	1,335	24.1	595	2,230	571	2,037	1.09
GREAT LEVER ...	867	12,401	13,712	6,449	7,263	15.8	3,750	13,541	3,699	17,210	0.79
HALLIWELL	358	21,690	19,464	9,044	10,420	54.4	5,476	19,205	5,428	22,850	0.84
HEATON	1,746	3,163	4,420	1,810	2,610	2.5	1,163	4,225	1,160	7,085	0.60
HULTON	1,615	6,632	6,456	3,055	3,401	4.0	1,802	6,377	1,773	7,819	0.82
NORTH	157	7,057	6,241	2,947	3,294	39.8	1,684	6,171	1,666	6,842	0.90
RUMWORTH	163	9,935	9,236	4,382	4,854	56.7	2,492	8,990	2,405	10,145	0.89
SMITHILLS	2,127	7,581	10,181	4,661	5,520	4.8	2,974	10,096	2,963	13,581	0.74
TONGE	829	10,028	13,502	6,428	7,074	16.3	3,697	13,415	3,678	15,668	0.86
WEST	412	25,846	24,079	11,259	12,820	58.4	6,336	23,344	6,015	26,765	0.87

TABLE 5—COMPARISON OF CENSUS AND RESIDENT POPULATIONS.

	ENUMERATED POPULATION, 1931.			Enumerated in the Area, but resident elsewhere in England and Wales.		Resident in the Area, but enumerated elsewhere in England and Wales.		Excess or Deficiency (—) of Residents in relation to enumerated.			
								Numbers.			Per 1,000 enumerated.
	Persons.	Males.	Females.	Males.	Females.	Males.	Females.	Persons.	Males.	Females.	Persons.
Bolton	177,250	82,997	94,253	393	574	909	909	851	516	335	5

Note.—In connection with the return of the address of "usual residence" which was required in respect of every person enumerated at the Census the undermentioned classes of persons were instructed to return their usual residence as follows:—

Boarders, Lodgers, etc..—The boarding house, club, hotel, etc., at which they have a settled place of residence if they have no more usual residence elsewhere.

Resident Domestic Servants.—Their place of employment.

Shop Assistants living in.—The living-in premises.

Scholars, Students of Residential Schools, Undergraduates of Universities, etc.,—The school, university or associated lodgings at which they reside at term time.

Inmates of Institutions.—The institution if discharge was not expected within 6 months, otherwise the home address.

Crews of ships.—The ship if they usually reside on ship board.

Persons with no settled place of residence were instructed to indicate the fact by the reply "None".

TABLE 6—DWELLINGS, ROOMS AND FAMILIES.

	Structurally Separate Dwellings of								Number of Rooms.			
	1 Room.	2 Rooms.	3 Rooms.	4 Rooms.	5 Rooms.	6-8 Rooms.	9 or more Rooms.	All Sizes.	Total.	Occupied.	Vacant. Furnished.	Vacant. Others.
BOLTON.												
Dwellings occupied by 1 private family	113	892	5,569	23,644	10,618	4,535	423	45,794	199,767	199,614	36	117
Dwellings occupied by 2 private families	—	10	34	296	203	133	9	685	3,293	3,283	3	7
Dwellings occupied by 3 or more private families	—	—	8	29	23	62	14	136	818	802	5	11
Total dwellings occupied	113	902	5,611	23,969	10,844	4,730	446	46,615	203,878	203,699	44	135
Dwellings wholly vacant furnished ...	1	5	13	101	67	40	5	232	1,101	—	1,101	—
Dwellings wholly vacant others ...	1	25	46	221	152	123	18	586	2,815	—	—	2,815
Total dwellings occupied and vacant	115	932	5,670	24,291	11,063	4,893	469	47,433	207,794	203,699	1,145	2,950
No. of private families therein...	113	912	5,661	24,334	11,100	5,060	526	47,706	—	—	—	—
Miscellaneous habitations and institutions housing non-private families								631				

NOTE.—For definitions of "Structurally Separate Dwellings," "Private Families" and "Rooms" see note at head of Table 4.

Dwellings or parts of dwellings unoccupied on Census night, whether through their being tenantless or through the temporary absence of the occupying family, have all been classified as "vacant." They have been appoitioned between "furnished" and "others" from such indications as could be obtained from enquiry or external scrutiny.

TABLE 7.—PRIVATE FAMILIES, CLASSIFIED BY SIZE OF FAMILY, ROOMS OCCUPIED, AND DENSITY OF OCCUPATION.

NOTE.—The following table contains an analysis of the private families within each area according to

(*a*) the number of persons in the family, and

(*b*) the number of rooms occupied by the family.

Where more than one family are enumerated within a structurally separate dwelling, each is classified according to the rooms it severally occupies and not to the total number of rooms in the dwelling. For this purpose rooms shared by more than one family are excluded, as are sculleries or bathrooms, etc., each family being classified to the next lower integral number of rooms occupied, save in the exceptional case of a family housed in a portion of a room only when it is classified as living in 1 room. The total rooms in col. (m) may on this account differ slightly from the corresponding totals of rooms shown in Tables 4 or 6.

For definitions of "Structurally Separate Dwellings," "Private Families," and "Rooms," see note at head of Table 4.

Number of Persons in Family.	Number of Private Families occupying the following Number of Rooms.								Total Private Families.	Population in Private Families	Rooms Occupied.	Density of Occupation.				
	1	2	3	4	5	6-7	8-9	10 or more.				Average Number of Persons per Room.	Population at following densities of occupation (Persons per Room). over 3.	3 and over 2	2 and over 1½	1½ and over 1
Cols. (a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
BOLTON.																
1	225	298	388	1,259	300	111	11	2	2,594	2,594	9,320	*0·28*	—	—	—	—
2	240	646	1,417	5,920	2,144	789	114	17	11,287	22,574	46,171	*0·49*	—	—	480	—
3	137	449	1,540	6,234	2,732	1,024	134	45	12,295	36,885	52,203	*0·71*	—	411	—	1,347
4	77	216	1,056	4,737	2,353	881	134	52	9,506	38,024	41,569	*0·91*	308	—	864	4,224
5	36	138	703	2,681	1,459	582	116	62	5,777	28,885	25,708	*1·12*	180	690	3,515	13,405
6	11	51	379	1,408	804	332	74	33	3,092	18,552	13,984	*1·33*	66	306	2,274	13,272
7	3	34	200	749	435	160	37	26	1,644	11,508	7,457	*1·54*	259	1,400	5,243	3,878
8	—	10	88	385	189	95	21	7	795	6,360	3,616	*1·76*	80	704	4,592	760
9	1	3	48	169	87	60	9	8	385	3,465	1,819	*1·90*	36	1,953	783	594
10	—	3	20	73	63	28	2	5	194	1,940	935	*2·07*	230	730	860	70
11	—	—	8	37	29	12	—	4	90	990	449	*2·20*	88	726	132	—
12	—	—	4	16	4	8	1	1	34	408	167	*2·44*	48	240	96	12
13	—	—	—	2	—	2	—	2	6	78	57	*1·37*	26	13	13	—
14	—	—	—	1	3	—	—	1	5	70	32	*2·19*	14	42	—	14
15 and over ...	—	—	—	—	—	—	2	—	2	33	16	*2·06*	—	17	16	—
2 Persons and over ..	*505*	*1,550*	*5,463*	*22,412*	*10,302*	*3,973*	*644*	*263*	*45,112*	*169,772*	*194,183*	*0·87*	*1,335*	*7,232*	*18,868*	*37,576*
Total Private Families ...	730	1,848	5,851	23,671	10,602	4,084	655	265	47,706	—	—	—	—	—	—	—
Population in Private Families	1,700	5,172	20,727	83,815	40,694	16,141	2,774	1,343	—	172,366	—	*0·85*	1,335	7,232	18,868	37,576
Rooms occupied ...	730	3,696	17,553	94,684	53,010	25,326	5,404	3,100	—	—	203,503	—	—	—	—	—
	1·5	*3·9*	*12·3*	*49·5*	*22·2*	*8·6*	*1·4*	*0·6*	*100·0*	1931. Percentage of Families living in various units of occupation						
	0·8	*4·0*	*20·4*	*45·2*	*19·6*	*7·7*	*1·7*	*0·6*	*100·0*	1921. " " " "						

TABLE 8—POPULATION IN NON-PRIVATE FAMILIES—Classified by Habitations.

NOTE.—Both staff and inmates are included in the population of institutions.

	Total Enumerated Population.	Population in Dwellings occupied by Private Families.		In Hotels, Boarding Houses, Lodging Houses, etc.		In Schools, Orphanages and other Educational Institutions (excluding Reformatories.)		In Civilian Hospitals, Nursing Homes and other Institutions for the Temporarily Sick.		In Institutions for Insane or Mentally Deficient, Cripples, Blind and other Permanently Disabled.		In Workhouses and other Poor Law Institutions (excluding Infirmaries and Educational Institutions).		In Prisons, Police Stations and other Places of Detention (including Reformatories).		In Naval, Military and Air Force Premises (including Ships and Hospitals).		In Civilian Ships, Boats and Barges.		All others (including Vagrants).	
		Persons.	%	Persons.	%	Persons	%	Persons	%	Persons.	%	Persons.	%	Persons.	%	Persons	%	Persons.	%	Persons.	%
Bolton ...	**177,250**	172 366	97·3	3,842	2·2	310	0·2	511	0·3	70	0·0	80	0·0	5	0·0	—	—	—	—	66	0·0

TABLE 9—INSTITUTIONS AND SPECIAL PREMISES.

Number, Total Population and Inmates.

Note.—Poor Law Institutions, if any, appropriated to Public Health Act or Maternity and Child Welfare purposes at the date of the Census, are classified as Hospitals, Nursing Homes, etc., and not as Poor Law Institutions.

	Number of Institutions	Total Population			Inmates only. (Classes 1—12).		
		Persons	Males	Females	Persons	Males	Females
1. Workhouses	—	—	—	—	—	—	—
2. Other Poor Law Institutions	1	80	77	3	72	72	—
3. Homes for Insane, etc.	—	—	—	—	—	—	—
4. Homes for Cripples	—	—	—	—	—	—	—
5. Homes for Blind	2	70	23	47	59	23	36
6. Homes for Deaf and Dumb	—	—	—	—	—	—	—
7. Homes for Inebriates	—	—	—	—	—	—	—
8. Hospitals (not Military, etc.)	4	422	138	284	259	133	126
9. Convalescent and Nursing Homes ...	3	89	16	73	47	16	31
10. Prisons	—	—	—	—	—	—	—
11. Other Places of Detention (Police Stations, Reformatories, etc.) ...	1	5	5	—	5	5	—
12. Naval, Military, etc., Hospitals ...	—	—	—	—	—	—	—
13. Naval, Military, etc., Barracks, etc. ...	—	—	—	—	—	—	—
14. Inland Barges and Boats	—	—	—	—	—	—	—
Total	11	666	259	407	442	249	193

TABLE **10**—AGES (GROUPED) BY MARITAL CONDITION.

Age last Birthday.	Persons	Males.					Females.				
		Total.	Single.	Married.	Widowed	Divorced	Total.	Single.	Married.	Widowed	Divorced
BOLTON.											
All Ages ...	**177,250**	**82,997**	**40,398**	**39,076**	**3,482**	**41**	**94,253**	**46,191**	**39,733**	**8,279**	**50**
0— 4 ...	11,531	5,802	5,802	—	—	—	5,729	5,729	—	—	—
5— 9 ...	13,501	6,816	6,816	—	—	—	6,685	6,685	—	—	—
10—14 ...	12,960	6,542	6,542	—	—	—	6,418	6,418	—	—	—
15—19 ...	14,940	7,176	7,157	19	—	—	7,764	7,677	86	1	—
20—24 ...	15,845	7,430	6,471	953	6	—	8,415	6,628	1,782	5	—
25—29 ...	15,470	7,336	3,330	3,970	34	2	8,134	3,573	4,515	46	—
30—34 ...	14,391	6,596	1,178	5,350	62	6	7,795	2,052	5,609	127	7
35—39 ...	13,342	6,104	631	5,364	104	5	7,238	1,489	5,499	242	8
40—44 ...	12,574	5,628	474	5,010	136	8	6,946	1,325	5,155	453	13
45—49 ...	11,863	5,330	462	4,653	210	5	6,533	1,134	4,774	614	11
50—54 ...	11,435	5,178	458	4,403	307	10	6,257	1,067	4,321	864	5
55—59 ...	10,009	4,712	424	3,821	466	1	5,297	846	3,454	995	2
60—64 ...	7,740	3,559	322	2,698	538	1	4,181	617	2,348	1,214	2
65—69 ...	5,510	2,429	171	1,668	589	1	3,081	445	1,329	1,307	—
70—74 ...	3,575	1,433	107	815	510	1	2,142	298	618	1,225	1
75—79 ...	1,749	669	40	288	341	—	1,080	147	208	724	1
80—84 ...	610	201	13	50	137	1	409	48	34	327	—
85—89 ...	175	50	—	12	38	—	125	11	1	113	—
90—94 ...	26	6	—	2	4	—	20	2	—	18	—
95 & over...	4	—	—	—	—	—	4	—	—	4	—

TABLE **11**.—AGES (Individual Years) under 21.

		AGE LAST BIRTHDAY.																			
0—21		0		1		2		3		4		5		6		7		8		9	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
27,744	28,172	1,108	1,108	1,119	1,161	1,160	1,136	1,189	1,119	1,226	1,205	1,211	1,277	1,332	1,266	1,309	1,297	1,412	1,327	1,552	1,518

AGE LAST BIRTHDAY.—(*Continued.*)

10		11		12		13		14		15		16		17		18		19		20	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1,669	1,632	1,541	1,564	1,092	1,083	1,047	992	1,193	1,147	1,281	1,321	1,527	1,583	1,430	1,579	1,497	1,667	1,441	1,614	1,408	1,576

SECTION XII.

Appendix.

List No.	Causes of Death	Total	Sex. M.	Sex. F.	Age. 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40
	I. Infectious and Parasitic Diseases.															
1-2	Typhoid and paratyphoid fevers	...	...	...	...	...	...	...	..	...	...	...	...	...	...	..
3	Typhus fever	...	...	...	..	...	...	...	...	...	...	...	...	...	...	..
4	Relapsing fever ("Spirillum obermeieri")	...	...	...	...	...	...	..	...	...	...	...	...	...	...	..
5	Undulant fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
6	Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
7	Measles	9	3	6	1	3	1	...	1	3	...	...	...	...	...	..
8	Scarlet fever	1	...	1	...	...	...	1	...	...	...	...	...	...	...	..
9	Whooping cough	11	3	8	7	3	1	...	...	...	...	...	...	...	...	..
10	Diphtheria	3	...	3	...	1	1	...	1	...	...	...	...	...	...	..
11	Influenza	46	21	25	2	...	...	1	...	...	...	...	1	3	4	
12	Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
13	Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
14	Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
15	Erysipelas	3	1	2	1	...	...	...	.	...	...	...	...	...	...	.
16	Acute poliomyelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
17	Encephalitis lethargica	3	1	2	...	...	...	...	...	...	...	1	...	...	...	
18	Cerebro-spinal fever	5	5	...	3	...	...	1	...	...	1	...	...	...	...	
19	Glanders	...	...	...	...	...	...	...	...	..	...	...	...	...	...	.
20	Anthrax	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
21	Rabies	...	...	...	...	..	...	...	...	...	...	...	...	...	...	.
22	Tetanus	...	...	...	.	...	...	...	...	...	...	...	...	...	...	.
23-32	Tuberculosis (all forms): ..	134	85	49	2	6	...	...	1	4	3	12	23	15	12	
23	Respiratory system	108	68	40	...	...	...	...	...	1	...	10	20	14	11	
24	Central nervous system ...	7	5	2	1	2	...	...	1	...	...	...	1	1	.	.
25	Intestines and peritoneum ..	5	3	2	1	1	...	...	...	1	2	...	...	...	...	.
26	Vertebral column	3	3	...	...	...	...	...	...	...	1	...	...	...	...	.
27	Other bones and joints	4	2	2	...	...	...	...	...	...	...	2	1	...	1	.
28	Skin and subcutaneous tissue..	...	...	...	...	..	...	...	...	...	...	...	...	...	...	.
29	Lymphatic system (abdominal and bronchial glands excepted)	1	...	1	...	...	...	...	...	...	...	...	1	...	...	
30	Genito-urinary system	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
31	Other organs	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
32	Disseminated tuberculosis ...	6	4	2	...	3	...	...	...	2	..	...	...	...	...	
33	Leprosy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
34	Syphilis	3	1	2	...	...	...	...	...	1	...	...	...	...	...	
35	Other venereal diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
36	Purulent infection, Septicæmia.	...	...	...	...	...	...	...	..	...	...	...	...	...	...	
37	Yellow fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
38	Malaria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
39	Other diseases due to protozoa ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
40	Ankylostomiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
41	Hydatid cysts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
42	Other diseases due to helminths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
43	Mycoses	...	...	...	...	...	..	...	..	...	...	...	...	...	...	
44	Other infectious or parasitic diseases ...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	
	Total Infectious and Parasitic Diseases....	218	120	98	16	13	3	3	3	8	4	13	24	18	16	
	II. Cancer and other Tumours.															
45-53	Cancer, malignant disease ...	231	105	126	...	...	...	1	...	...	...	...	1	2	1	
45	Buccal cavity and pharynx ..	19	15	4	...	...	...	...	...	...	...	...	...	...	..	
46	Digestive organs and peritoneun	109	57	52	...	...	...	...	...	...	...	...	1	1	...	
47	Respiratory organs	10	9	1	...	...	...	...	...	...	..	...	...	...	...	
48	Uterus	20	...	20	...	..	...	...	...	...	...	...	...	...	...	
49	Other female genital organs ..	5	...	5	...	...	...	...	...	...	...	...	...	...	...	
50	Breast	30	...	30	...	...	...	...	...	...	...	...	...	...	...	
51	Male genito-urinary organs ...	11	11	...	..	...	...	...	...	...	...	...	...	1	...	
52	Skin	4	3	1	...	...	...	...	...	...	...	...	...	...	...	
53	Other or unspecified organs ...	23	10	13	...	...	...	1	...	...	...	...	...	...	1	
54	Non-malignant tumours	1	...	1	...	...	...	...	...	...	...	...	...	...	...	
55	Tumours of undetermined nature	10	5	5	...	1	...	...	...	...	...	...	...	2	...	
	Total Cancer and Other Tumours	242	110	132	...	1	...	1	...	...	...	...	1	4	1	

60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
..	..	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
..	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
..	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	6	3	...	1	1	...	...	...	...	1	...	1	1	2	..	2	...	...	...
..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
...	...	...	...	...	...	11	...	...	1	1	...	...	...	...	...	...	2	...	...	1	5	...	1	...
...	...	...	...	..	...	3	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1
3	5	6	6	3	...	3	43	...	3	7	2	2	7	1	7	3	2	1	2	1	4	...	1	3
.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
..	..	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	1	...	1	..	...	1	2	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	3	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	1
...	...	...	...	...	...	4	1	...	...	...	...	...	1	...	...	...	...	...	...	2	1	...	1	...
...	...	...	...	...	...	...	..	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
-	2	...	...	..	...	9	125	4	17	19	8	4	8	6	6	7	21	3	4	5	10	2	4	6
7	2	...	...	...	...	...	108	4	16	15	6	4	7	4	5	4	15	3	3	4	9	1	3	5
...	..	..	...	...	...	4	3	...	1	...	...	...	...	1	...	...	2	...	...	...	1	1	1	...
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10	8	6	7	3	...	38	180	4	22	30	10	6	17	8	14	10	28	6	8	10	23	3	8	11
33	36	47	12	8	...	1	230	5	6	34	21	2	12	12	19	6	29	4	5	6	33	7	17	13
7	3	5	..	...	...	...	19	...	...	3	2	1	2	1	...	...	2	1	...	...	7	...	...	...
14	22	23	6	6	...	...	109	3	2	17	13	1	6	4	10	2	11	1	2	2	17	3	9	6
3	3	1	...	...	...	...	10	...	1	...	1	...	1	2	...	2	1	...	...	...	...	...	1	1
2	...	4	...	1	...	...	20	...	...	4	2	...	1	1	1	1	3	...	2	1	2	...	2	...
...	...	1	...	...	...	...	5	...	..	1	...	...	...	...	1	...	...	...	...	...	...	2	1	...
1	4	6	1	...	...	...	30	1	1	4	1	...	2	2	4	1	5	2	...	...	3	...	1	3
2	...	3	2	...	...	...	11	...	...	2	1	...	...	...	1	...	1	...	...	...	...	2	2	2
...	2	...	...	1	...	...	4	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	1	...
4	2	4	3	...	...	1	22	1	2	3	1	...	...	2	2	...	5	...	1	3	2	...	...	1
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..	1	1	1	...	...	1	9	...	...	...	2	...	1	1	...	1	1	1	1	...	1	...	1	...
33	37	48	13	8	...	2	240	5	6	35	23	2	13	13	19	7	30	5	6	6	34	7	18	13

List No.	Causes of Death	Total	SEX. M.	SEX. F.	AGE. 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45
	III. Rheumatism, Diseases of Nutrition and of Endocrine Glands, and other General Diseases.																
56	Rheumatic fever	18	6	12	...	...	...	...	1	...	2	...	...	3	1	3	
57	Chronic rheumatism, Osteo-arthritis...	6	...	6	...	...	...	...	...	...	...	...	...	...	...	...	..
58	Gout	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
59	Diabetes	25	7	18	...	...	...	...	...	...	...	1	...	1	1	1	
60	Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	.
61	Beri-beri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
62	Pellagra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
63	Rickets	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	..
64	Osteomalacia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
65	Diseases of the pituitary gland ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
66	Diseases of the thyroid and parathyroid glands	11	...	11	...	...	...	...	...	...	...	...	...	...	...	...	
67	Diseases of the thymus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
68	Diseases of the adrenals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
69	Other general diseases	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	
	Total Rheumatism, Diseases of Nutrition and of Endocrine Glands, and Other General Diseases	62	13	49	...	...	...	...	1	...	2	2	...	4	2	4	
	IV. Diseases of the Blood and Blood-forming Organs.																
70	Hæmorrhagic conditions	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
71	Anæmia, Chlorosis	20	5	15	...	...	...	...	...	...	...	1	1	...	...	...	
72	Leukæmia, aleukæmia	2	1	1	...	...	...	...	...	...	...	...	1	...	...	...	
73	Diseases of the spleen	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
74	Other diseases of the blood and blood-forming organs	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	
	Total Diseases of the Blood and Blood-forming Organs ...	22	6	16	...	...	...	...	...	...	...	1	2	...	...	...	.
	V. Chronic Poisoning.																
75	Alcoholism (acute or chronic) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
76	Chronic poisoning by other organic substances	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	
77	Chronic poisoning by mineral substances	...	...	..	...	...	...	...	...	...	...	...	...	...	...	.	
	Total Chronic Poisoning ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	VI. Diseases of the Nervous System and Sense Organs.																
78	Encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
79	Meningitis	3	2	1	1	2	...	...	...	...	...	...	...	...	...	...	
80	Tabes dorsalis (locomotor ataxy)	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	
81	Other diseases of the spinal cord	7	3	4	...	...	...	...	...	...	...	...	1	...	..	1	
82	Cerebral hæmorrhage, Apoplexy, etc.	137	71	66	1	...	...	...	...	...	...	...	...	...	...	2	
83	General paralysis of the insane ...	5	4	1	...	...	...	...	...	...	...	...	...	...	...	...	
84	Other forms of insanity	3	...	3	...	...	...	...	...	...	...	...	...	1	...	...	
85	Epilepsy	11	3	8	...	...	1	1	...	1	...	...	...	2	...	...	
86	Infantile convulsions (age under 5 years)	13	9	4	8	3	1	...	1	...	...	...	...	...	...	...	
87	Other diseases of the nervous system	10	7	3	...	...	...	...	...	...	...	1	...	...	...	1	

								WARD.																
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
2	...	...	...	...	...	1	17	...	...	3	3	...	1	1	3	...	3	...	...	1	...	1	2	...
2	2	1	1	...	...	...	6	...	...	...	...	...	1	...	...	...	...	...	...	...	2	1	1	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	7	1	2	...	...	...	25	...	1	5	2	...	2	2	2	3	1	1	2	...	2	...	1	1
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8	11	4	3	...	...	1	61	...	2	10	7	...	4	3	5	3	5	3	3	2	5	2	6	2
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2	3	3	2	1	...	...	20	...	2	6	4	...	1	...	1	...	2	...	...	1	...	...	2	1
...	1	...	...	...	...	...	2	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...
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2	4	3	2	1	...	...	22	...	2	6	4	1	1	...	2	...	2	...	...	1	...	...	2	1
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1	1	1	...	...	...	...	7	...	1	...	...	...	2	1	1	1	...	...	...	...	...	...	1	...
20	26	29	18	6	7	1	136	4	9	19	16	1	16	2	9	5	15	2	3	4	12	1	12	7
1	...	...	...	...	...	...	5	...	...	2	...	...	1	1	...	...	...	...	...	...	...	...	1	...
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...	...	...	...	...	...	13	...	...	1	2	...	...	2	2	1	...	...	...	...	1	1	...	3	...
1	...	2	1	...	...	...	10	1	...	1	...	...	...	...	4	1	...	1	...	...	2	...	...	...

List No.	Causes of Death	Total	SEX. M.	SEX. F.	AGE. 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40
88	Diseases of the eye and annexa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
89	Diseases of the ear and mastoid sinus	8	6	2	...	...	...	...	...	1	2	2	1	...	...	...
	Total Diseases of the Nervous System and Sense Organs	200	108	92	10	5	2	1	1	2	2	3	2	3	...	4
	VII. Diseases of the Circulatory System.															
90-95	Heart diseases:	425	195	230	...	...	...	...	...	...	...	1	3	4	8	7
90	Pericarditis...	2	...	2	...	...	...	...	...	..	...	...	...	...	...	...
91	Acute endocarditis...	3	2	1	...	..	...	...	...	...	...	...	...	...	1	...
92	Chronic endocarditis, valvular disease	129	39	90	...	...	...	...	...	...	...	1	1	4	5	5
93	Diseases of the myocardium ..	248	131	117	...	...	...	...	...	...	...	...	1	...	1	2
94	Diseases of the coronary arteries, Angina pectoris	19	14	5	...	...	...	...	...	...	...	...	...	...	...	...
95	Other diseases of the heart ...	24	9	15	...	...	...	...	...	...	...	...	1	...	1	...
96	Aneurysm	4	3	1	...	...	...	...	...	...	...	...	...	...	1	...
97	Arterio-sclerosis	171	69	102	...	...	...	...	...	...	...	...	...	...	...	1
98	Gangrene	5	4	1	...	...	...	...	...	...	...	...	...	...	...	...
99	Other diseases of the arteries ..	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...
100	Diseases of the veins (Varix, hæmorrhoids, phlebitis, etc.) ...	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...
101	Diseases of the lymphatic system (lymphangitis, etc)	1	1	...	...	...	..	...	...	...	...	...	...	...	...	...
102	Abnormalities of blood-pressure	11	4	7	...	...	...	...	...	...	...	...	...	...	...	...
103	Other diseases of the circulatory system	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total Diseases of the Circulatory System.	622	278	344	...	...	...	...	...	...	...	1	3	4	9	8
	VIII. Diseases of the Respiratory System.															
104	Diseases of nasal fossæ and annexa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
105	Diseases of the larynx	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
106	Bronchitis	98	44	54	4	1	...	...	...	...	...	...	...	...	...	3
107-109	Pneumonia (all forms)	141	79	62	29	12	4	...	3	7	2	1	4	2	3	7
107	Broncho-pneumonia	74	38	36	21	10	3	...	...	5	1	...	...	1	...	1
108	Lobar pneumonia	46	32	14	3	1	1	...	1	1	1	1	3	...	3	6
109	Pneumonia (not otherwise defined)	21	9	12	5	1	...	...	2	1	...	...	1	1	...	...
110	Pleurisy	4	2	2	...	...	1	...	...	.	...	...	1	...	...	...
111	Congestion and hæmorrhagic infarct of lung, etc.	12	8	4	...	...	...	..	...	...	...	...	...	...	...	1
112	Asthma	5	2	3	...	...	...	...	..	...	...	...	...	...	...	...
113	Pulmonary emphysema	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
114	Other diseases of the respiratory system	2	2	...	...	...	...	...	...	...	...	...	...	...	1	...
	Total Diseases of the Respiratory System	262	137	125	33	13	5	...	3	7	2	1	5	2	4	11
	IX. Diseases of the Digestive System.															
115	Diseases of the buccal cavity, pharynx, etc.	4	...	4	...	...	...	...	...	...	...	...	...	1	...	...
116	Diseases of the œsophagus ...	1	1	...	...	...	...	...	..	...	1	...	...	...	...	...
117	Ulcer of the stomach or duodenum	30	25	5	...	...	...	...	...	...	...	1	...	1	...	5
118	Other diseases of the stomach	6	2	4	...	...	...	...	...	...	...	...	...	...	...	2
119-120	Diarrhœa and enteritis	23	13	10	11	1	...	...	...	...	...	1	...	..	...	...

60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
...	...	...	...	...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
..	...	...	...	...	...	...	8	...	...	...	2	...	2	...	...	1	1	...	...	...	1	...	1	...
24	27	33	19	6	8	19	181	5	11	28	19	1	26	6	16	8	18	4	3	5	21	1	18	10
48	70	70	73	37	17	...	425	12	23	44	37	7	42	24	36	16	45	18	15	20	41	4	22	19
...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
...	1	...	...	...	..	...	3	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	1	...
15	20	20	16	5	1	...	129	4	7	11	10	1	9	12	11	4	13	5	6	2	17	1	8	8
28	40	42	55	32	14	...	248	7	13	29	21	4	29	9	21	10	29	9	7	16	19	3	12	10
3	4	3	1	...	2	...	19	...	1	2	3	1	...	...	3	1	2	1	2	...	2	...	1	...
2	5	5	1	...	...	...	24	...	2	2	2	1	4	3	1	1	1	2	...	1	3	...	...	1
...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	1	2	...	...	...	1	...	...	...
19	24	47	34	19	12	...	171	7	8	27	15	6	18	8	12	5	13	7	3	11	18	4	3	6
	1	1	1	1	1	...	5	...	...	1	...	...	...	1	1	...	1	1	...	...	...	...	...	...
	...	...	1	...	...	...	2	...	...	...	...	...	..	...	1	...	...	...	...	...	...	1	...	...
..	...	...	2	...	...	...	3	...	...	1	...	...	...	...	...	1	...	...	...	...	1	...	...	...
1	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	2	1	...	2	...	...	11	1	...	2	2	...	...	...	...	...	...	1	...	2	2	...	1	...
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70	97	119	111	59	30	...	622	20	32	75	54	13	60	33	50	23	61	27	18	33	63	9	26	25
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3	12	18	27	9	11	5	93	6	4	21	5	5	15	4	6	3	8	1	1	7	6	...	2	4
9	7	8	10	2	3	48	95	7	16	25	9	2	15	5	10	3	17	5	4	2	9	2	5	5
5	2	5	5	1	3	34	40	3	7	18	5	1	8	1	3	2	9	2	2	1	5	2	3	2
2	5	2	4	...	...	6	40	3	4	5	3	1	6	3	6	...	5	2	2	...	2	...	1	3
2	...	1	1	1	...	8	13	1	5	2	1	...	1	1	1	1	3	1	...	1	2	...	1	...
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15	23	28	41	12	16	54	208	13	20	49	14	7	34	11	16	7	25	8	10	10	19	2	7	10
...	1	...	1	...	...	...	4	...	..	...	...	...	...	...	1	1	...	...	1	...	1	...	...	...
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2	3	1	1	1	...	...	30	...	...	2	5	1	6	2	3	...	1	1	...	...	5	...	1	3
.	...	2	...	1	..	...	6	1	1	...	...	1	...	1	...	...	...	1	...	...	1	...	...	...
1	1	2	1	1	...	12	11	2	1	1	1	...	3	1	2	...	4	1	...	1	2	1	1	2

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List No.	Causes of Death	Total	SEX. M.	SEX. F.	AGE. 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40
121	Appendicitis	6	3	3	...	...	...	...	...	1	1	...	...	...	...	...
122	Hernia, intestinal obstruction ...	22	14	8	...	1	1	...	...	1	...	...	1	...	...	...
123	Other diseases of the intestines ...	5	4	1	...	...	...	...	...	...	...	...	...	...	...	1
124	Cirrhosis of the liver	5	4	1	...	...	...	...	...	...	...	...	...	...	...	...
125	Other diseases of the liver ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
126	Biliary calculi	4	1	3	...	...	...	...	...	...	...	...	...	...	...	...
127	Other diseases of the gall bladder and ducts...	7	4	3	...	...	...	...	...	...	...	...	...	...	...	...
128	Diseases of the pancreas	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...
129	Peritonitis without stated cause	1	...	1	...	...	...	...	...	...	...	...	...	...	1	...
	Total Diseases of the Digestive System	118	73	45	11	2	1	...	...	2	2	2	1	2	1	8
	X. Non-Venereal Diseases of the Genito-Urinary System and Annexa.															
130-132	Nephritis :	116	64	52	...	2	...	...	...	...	2	2	3	1	...	5
130	Acute nephritis	13	6	7	...	2	...	...	...	...	2	...	2	...	...	...
131	Chronic nephritis	67	36	31	...	...	...	...	...	...	...	2	1	1	...	3
132	Nephritis, not stated to be acute or chronic	36	22	14	...	...	...	...	...	...	...	...	...	...	...	2
133	Other diseases of the kidney and annexa	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
134	Calculi of the urinary passages	3	1	2	...	...	...	...	...	...	1	...	...	...	...	...
135	Diseases of the bladder	4	3	1	...	...	...	...	...	...	...	...	...	...	...	...
136	Diseases of the urethra, urinary abscess, etc.	3	3	...	...	...	...	...	..	...	...	...	...	...	...	...
137	Diseases of the prostate	17	17	...	...	...	...	...	...	...	...	...	...	...	...	...
138	Diseases of the male genital organs	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
139	Diseases of the female genital organs	3	...	3	...	...	...	...	...	...	...	...	1	...	...	1
	Total Non-Venereal Diseases of the Genito-Urinary System and Annexa.	146	88	58	...	2	...	...	...	...	3	2	4	1	...	6
	XI. Diseases of Pregnancy, Childbirth and the Puerperal State.															
140	Post-abortive sepsis	3	...	3	...	...	...	...	...	...	...	1	...	...	...	2
141	Abortion not returned as septic ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1
142	Ectopic gestation	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...
143	Other accidents of pregnancy ...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...
144	Puerperal hæmorrhage	2	...	2	...	...	...	...	...	...	...	...	...	...	2	...
145	Puerperal sepsis not returned as post-abortion	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
146	Puerperal albuminuria and convulsions	2	...	2	...	...	...	...	...	...	...	...	..	1	1	...
147	Other toxæmias of pregnancy ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1
148	Puerperal phlegmasia alba dolens, embolism, and sudden death ...	2	...	2	...	...	...	...	...	...	...	...	...	1	...	...
149	Other accidents of childbirth ...	5	...	5	...	...	...	...	...	...	...	...	3	...	1	1
150	Other or unspecified conditions of the puerperal state ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total Diseases of Pregnancy, Childbirth and the Puerperal State.	16	...	16	...	...	...	...	...	...	...	1	3	2	4	5
	XII. Diseases of the Skin and Cellular Tissue.															
151	Carbuncle, Boil	1	1	...	...	...	...	...	...	...	...	...	..	...	1	...
152	Cellulitis, Acute abscess	3	1	2	1	...	...	...	...	...	...	...	...	...	...	...
153	Other diseases of the skin and its annexa	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...
	Total Diseases of the Skin and Cellular Tissue. ...	7	4	3	1	...	...	...	...	...	...	...	...	...	1	...

60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
1	1	...	...	...	...	...	6	2	...	...	1	...	...	...	1	...	1	...	...	...	1	...	...	...
3	3	2	1	1	...	2	20	3	...	2	2	...	1	1	2	1	2	1	1	...	4	...	2	...
2	1	...	...	...	...	...	5	...	...	1	...	...	...	...	...	...	1	...	1	1	1	...	...	...
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11	10	14	6	4	...	14	104	8	3	11	10	2	12	6	10	3	10	4	3	2	20	3	6	5
21	19	15	11	4	1	2	114	4	6	25	3	1	5	12	7	5	5	3	6	13	4	8	6	3
1	...	1	...	...	...	2	11	1	...	3	...	...	...	1	1	...	2	...	1	2	...	...	...	2
12	10	9	6	2	...	...	67	1	4	16	2	1	2	11	4	3	1	3	2	6	1	6	4	...
8	9	5	5	2	1	...	36	2	2	6	1	...	3	...	2	2	2	...	3	5	3	2	2	1
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3	3	5	2	2	...	...	17	...	2	3	1	...	2	1	...	...	2	...	2	1	1	1	...	1
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25	24	21	14	7	1	2	144	5	9	30	7	1	7	13	7	6	7	3	8	15	8	9	7	4
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List No.	Causes of Death.	Total	Sex. M.	Sex. F.	Age. 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	4 t 4
	XIII. Diseases of the Bones and Organs of Locomotion																
154	Acute infective osteomyelitis and periostitis...	3	2	1	...	...	1	...	...	...	1	...	...	...	...	...	
155	Other diseases of the bones ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
156	Diseases of the joints and other organs of locomotion	1	1	...	...	...	...	...	...	...	...	...	...	...	..	...	
	Total Diseases of the Bones and Organs of Locomotion.	4	3	1	...	...	1	...	...	...	1	...	...	...	...	...	
157	**XIV. Congenital Malformations.**	29	10	19	27	2	...	...	...	...	...	...	...	...	...	...	
	XV. Diseases of Early Infancy.																
158	Congenital debility	11	7	4	11	...	...	...	...	...	...	...	...	...	...	...	
159	Premature birth	44	27	17	44	...	...	...	...	...	...	...	...	...	...	...	
160	Injury at birth	2	1	1	2	...	...	...	...	...	...	...	...	...	...	...	
161	Other diseases peculiar to early infancy	11	7	4	11	...	...	...	...	...	...	...	...	...	...	...	
	Total Diseases of Early Infancy	68	42	26	68	..	...	...	...	...	...	...	...	...	...	...	
162	**XVI. Old Age.**	100	50	50	...	...	...	...	...	...	...	...	...	...	...	...	
	XVII. Deaths from Violence.																
163-171	Suicide:	36	26	10	...	...	...	...	...	...	...	...	2	...	4	2	
163	By solid or liquid poisons and corrosive substances	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	
164	By poisonous gas	10	4	6	...	...	...	...	...	...	...	...	1	...	2	1	
165	By hanging or strangulation ..	5	4	1	...	...	...	...	...	...	...	...	1	...	...	...	
166	By drowning	11	9	2	...	...	...	...	...	...	...	...	...	...	1	1	
167	By firearms	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
168	By cutting or piercing instruments	6	5	1	...	...	...	...	...	..	...	...	...	...	...	...	
169	By jumping from high places...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
170	By crushing	3	3	...	...	...	...	...	...	...	...	...	...	...	1	...	
171	By other means	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
172-175	Homicide:	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
172	Infanticide (under one year)	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	
173	Homicide by firearms	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
174	Homicide by cutting or piercing instruments	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
175	Homicide by other means ..	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	
176-194	Accidental deaths:	56	43	13	2	...	...	...	...	2	8	5	6	4	4	1	
176	Attack by venomous animals ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
177	Food poisoning	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
178	Accidental absorption of irrespirable or poisonous gas ..	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	
179	Other acute accidental poisoning (not by gas)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
180	Conflagration	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
181	Accidental burns (conflagration excepted)	2	1	1	1	...	...	...	...	...	...	...	...	...	...	...	
182	Accidental mechanical suffocation	2	2	...	...	...	...	...	...	...	1	...	...	...	...	...	
183	Accidental drowning	4	4	...	...	..	...	...	...	...	2	2	...	...	...	...	
184	Accidental injury by firearms..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
185	Accidental injury by cutting or piercing instruments	2	1	1	...	...	...	...	...	...	1	...	...	...	...	...	
186	Accidental injury by fall, crushing, etc.	43	32	11	1	...	...	...	...	2	4	3	5	3	4	1	
187	Cataclysm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
188	Injury by animals (poisoning by venomous animals excepted)	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	
189	Hunger or thirst	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar.Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
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2	2	21	31	30	13	...	100	2	8	18	1	2	6	9	4	1	8	...	2	3	15	2	8	11
4	2	2	...	..	...	...	36	1	...	3	4	...	5	...	2	1	5	3	2	...	5	...	2	3
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3	1	4	2	3	1	2	54	1	2	10	4	...	4	3	7	1	4	3	3	7	2	1	3	1
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3	1	4	2	3	1	1	42	1	2	9	3	...	2	3	4	1	2	3	2	7	1	...	2	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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TABL

CAUSES

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE. 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40
190	Excessive cold	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
191	Excessive heat	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
192	Lightning	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
193	Electricity (lightning excepted)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
194	Other and unstated forms of accidental violence	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...
195	Violent deaths of unstated nature (*i.e.*, accidental, suicidal, etc.)	4	3	1	...	...	...	...	...	...	...	...	...	...	...	...
196	Wounds of war	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
197	Execution of civilians by billigerent armies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
198	Execution	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...
	Total Deaths from Violence	97	73	24	2	...	...	...	...	2	8	5	8	4	8	3
	XVIII. Ill-defined Diseases.															
199	Sudden death	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
200	Causes of death unstated or ill-defined	10	5	5	...	1	...	...	...	..	...	...	...	...	...	...
	Total Ill-defined Deaths ...	10	5	5	...	1	...	...	...	...	...	...	...	...	...	...

								WARD.																
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar.Lever c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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7	3	6	2	3	2	2	95	2	2	13	9	...	9	5	9	2	9	6	5	8	7	1	6	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	2	1	1	...	1	1	9	...	...	2	...	...	...	...	...	...	3	...	1	2	1	...	1	...
2	2	1	1	...	1	1	9	...	...	2	...	...	...	...	...	...	3	...	1	2	1	...	1	...

TABL
CAUSI

List No.	Causes of Death.	Total	SEX. M.	SEX. F.	AGE. 0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40
1-44	Infectious and Parasitic Diseases	218	120	98	16	13	3	3	3	8	4	13	24	18	16	13
45-55	Cancer and other Tumours ..	242	110	132	...	1	...	1	...	...	...	...	1	4	1	5
56-69	Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases ...	62	13	49	...	...	...	...	1	...	2	2	...	4	2	4
70-74	Diseases of the Blood and Blood-forming Organs	22	6	16	...	...	...	...	...	...	...	1	2	...	...	...
75-77	Chronic Poisoning...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
78-89	Diseases of the Nervous System and Sense Organs	200	108	92	10	5	2	1	1	2	2	3	2	3	...	4
90-103	Diseases of the Circulatory System	622	278	344	...	...	...	...	...	...	...	1	3	4	9	8
104-114	Diseases of the Respiratory System	262	137	125	33	13	5	...	3	7	2	1	5	2	4	11
115-129	Diseases of the Digestive System	118	73	45	11	2	1	...	...	2	2	2	1	2	1	8
130-139	Non-Venereal Diseases of the Genito-Urinary System and Annexa	146	88	58	...	2	...	...	...	...	3	2	4	1	...	6
140-150	Diseases of Pregnancy, Childbirth and the Puerperal State ...	16	...	16	...	...	...	...	...	...	...	1	3	2	4	5
151-153	Diseases of the Skin and Cellular Tissue	7	4	3	1	...	...	...	...	...	...	...	...	...	1	...
154-156	Diseases of the Bones and Organs of Locomotion...	4	3	1	...	...	1	...	...	...	1	...	...	...	...	...
157	Congenital Malformations ...	29	10	19	27	2	...	...	...	...	...	...	...	...	...	...
158-161	Diseases of Early Infancy ...	68	42	26	68	...	...	...	...	...	...	...	...	...	...	...
162	Old Age	100	50	50	...	...	...	...	...	...	...	...	...	...	...	...
163-198	Deaths from Violence	97	73	24	2	...	...	...	...	2	8	5	8	4	8	7
199-200	Ill-defined Diseases	10	5	5	...	1	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL ...	2223	1120	1103	168	39	12	5	8	21	24	31	53	44	46	69

60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	WARD. North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar.Lever-c-Br'htmet	Derby	Hulton	Deane-c-Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
10	8	6	7	3	...	38	180	4	22	30	10	6	17	8	14	10	28	6	8	10	23	3	8	11
33	37	48	13	8	...	2	240	5	6	35	23	2	13	13	19	7	30	5	6	6	34	7	18	13
8	11	4	3	...	...	1	61	...	2	10	7	...	4	3	5	3	5	3	3	2	5	2	6	2
2	4	3	2	1	..	...	22	...	2	6	4	1	1	...	2	...	2	...	...	1	...	...	2	1
...	...	...	..	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
24	27	33	19	6	8	19	181	5	11	28	19	1	26	6	16	8	18	4	3	5	21	1	18	10
70	97	119	111	59	30	...	622	20	32	75	54	13	60	33	50	23	61	27	18	33	63	9	26	25
15	23	28	41	12	16	54	208	13	20	49	14	7	34	11	16	7	25	8	10	10	19	2	7	10
11	10	14	6	4	...	14	104	8	3	11	10	2	12	6	10	3	10	4	3	2	20	3	6	5
25	24	21	14	7	1	2	144	5	9	30	7	1	7	13	7	6	7	3	8	15	8	9	7	4
...	...	...	...	...	...	...	16	1	1	3	2	...	1	...	2	2	4	...	...	...	...	...	...	...
1	...	1	...	...	...	1	6	...	...	1	...	...	...	...	1	...	1	2	...	1	...	1	...	...
2	...	.	...	...	...	1	3	...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	1
...	...	...	...	...	...	29	...	3	1	3	3	...	4	...	1	2	3	...	...	2	5	...	2	...
...	...	...	...	...	...	68	...	...	1	9	8	3	8	3	3	3	13	2	...	5	5	1	2	2
2	2	21	31	30	13	...	100	2	8	18	1	2	6	9	4	1	8	...	2	3	15	2	8	11
7	3	6	2	3	2	2	95	2	2	13	9	...	9	5	9	2	9	6	5	8	7	1	6	4
2	2	1	1	...	1	1	9	...	...	2	...	...	...	...	...	...	3	...	1	2	1	...	1	...
212	248	305	250	133	71	232	1991	68	121	324	171	38	202	110	159	77	227	70	67	105	227	41	117	99

Causes of Death at Different Periods of Life in the County Borough of Bolton—1932.

(Statistics supplied by the Registrar-General).

Causes of death	Sex	All Ages	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—
All Causes	M	1130	98	17	10	26	47	45	67	130	217	276	197
	F	1115	70	23	15	21	38	45	69	122	167	282	263
Typhoid and paratyphoid fevers ...	M	...	...	...	...	...	...	...	...	...	...	...	...
	F	...	...	...	...	...	...	...	...	...	...	...	...
Measles	M	2	1	...	...	1	...	...	...	...	...	...	...
	F	8	...	4	2	2	...	...	...	...	...	...	...
Scarlet fever	M	...	...	...	...	...	...	...	...	...	...	...	...
	F	1	...	...	1	...	...	...	...	...	...	...	...
Whooping cough	M	3	2	1	...	...	...	...	...	...	...	...	...
	F	8	5	2	1	...	...	...	...	...	...	...	...
Diphtheria	M	...	...	...	...	...	...	...	...	...	...	...	...
	F	3	...	1	2	...	...	...	...	...	...	...	...
Influenza	M	19	...	...	...	...	...	1	2	3	5	4	4
	F	29	2	...	1	...	1	6	...	4	1	7	7
Encephalitis lethargica	M	1	...	...	...	...	...	...	1	...	...	...	...
	F	2	...	...	...	...	1	...	...	1	...	...	...
Cerebro-spinal fever	M	5	3	...	1	1	...	...	...	...	...	...	...
	F	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of respiratory system...	M	70	...	...	...	...	14	12	7	18	16	3	...
	F	43	...	...	...	1	17	13	4	5	3	...	..
Other tuberculous diseases ...	M	17	2	4	...	4	3	1	1	2	...	...	...
	F	9	...	2	1	2	2	1	1	...	...	...	...
Syphilis	M	1	...	...	...	...	...	...	1	...	...	...	...
	F	2	...	...	...	1	...	...	...	1	...	...	..
General paralysis of the insane, tabes dorsalis	M	7	...	...	...	...	...	...	...	3	4	...	...
	F	2	...	...	...	...	...	...	...	1	...	1	...
Cancer, malignant disease ...	M	109	...	...	1	...	1	2	2	14	37	44	8
	F	127	...	...	...	...	...	2	14	32	28	39	12
Diabetes	M	8	...	...	...	...	1	1	2	...	3	1	...
	F	24	...	...	...	...	...	1	1	3	7	9	3
Cerebral hæmorrhage, &c.	M	66	...	...	...	...	...	...	...	7	17	31	11
	F	68	...	...	...	...	...	...	2	6	20	22	18
Heart disease	M	223	...	...	1	...	4	4	11	18	48	77	60
	F	251	...	...	...	2	2	10	15	25	41	83	73
Aneurysm	M	3	...	...	...	...	...	1	...	1	1	...	...
	F	1	...	...	...	...	...	...	1	...	...	...	...
Other circulatory diseases	M	67	...	...	...	...	...	...	1	1	14	23	28
	F	95	...	...	...	...	...	...	2	2	14	35	42
Bronchitis	M	43	4	1	...	...	...	...	4	5	3	15	11
	F	49	...	...	...	...	...	...	...	1	3	12	33
Pneumonia (all forms)	M	78	17	4	5	5	4	5	8	10	7	6	7
	F	53	12	8	1	5	1	...	4	3	7	9	3
Other respiratory diseases	M	15	...	...	...	...	1	1	...	1	2	3	7
	F	9	...	...	1	...	...	...	1	1	1	2	3
Peptic Ulcer	M	25	...	...	...	...	1	1	7	9	4	2	1
	F	5	...	...	...	...	...	...	1	1	...	2	1
Diarrhœa, &c.	M	11	5	1	...	...	1	...	1	1	...	...	2
	F	9	5	...	...	...	...	...	...	1	...	3	...
Appendicitis	M	4	...	...	...	...	...	...	...	1	2	1	...
	F	3	...	...	...	2	...	...	1	...	...	...	...
Cirrhosis of liver	M	6	...	...	...	...	...	...	1	1	2	2	...
	F	1	...	...	...	...	...	...	...	...	...	1	...
Other diseases of liver, etc.	M	3	...	...	...	...	...	...	...	1	1	...	1
	F	8	...	...	...	...	...	...	...	2	2	3	1
Other digestive diseases	M	24	...	1	1	2	...	...	1	4	8	6	1
	F	21	...	...	...	...	1	1	1	4	3	7	4
Acute and chronic nephritis ...	M	62	...	1	...	1	2	1	4	11	12	19	11
	F	50	...	1	...	1	3	...	3	9	12	13	8
Puerperal sepsis	F	6	...	...	...	...	2	1	3	...	...	...	...
Other puerperal causes	F	11	...	...	...	...	2	5	4	...	...	...	...
Congenital debility and malformation, premature birth	M	52	51	1	...	...	...	...	...	...	...	...	.
	F	44	43	1	...	...	...	...	...	...	...	...	...
Senility	M	35	...	...	...	...	...	...	...	...	...	8	27
	F	51	...	...	...	...	...	...	...	...	2	10	39
Suicide	M	26	...	...	...	...	2	2	6	2	10	4	...
	F	10	...	...	...	...	...	2	1	4	3	...	...
Other violence	M	48	2	...	...	8	9	8	3	6	4	2	6
	F	20	...	...	...	3	...	...	...	2	3	6	6
Other defined diseases	M	93	11	3	1	4	4	5	4	11	16	23	11
	F	90	3	3	5	2	6	3	10	14	17	18	9
Causes ill-defined or unknown ...	M	4	...	...	...	...	...	...	...	...	1	2	1
	F	2	...	1	...	...	...	...	...	...	...	...	1